The Builder.

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READERS would scarcely look to a book on "The Practice of Measuring and Valuing Artificers' Work," for an exposition of views on design, and an endeavour to reform generally the architecture of our time. They will find these, however, in the second edition just now published by Weale of Mr. Dobson's volume on the former subject, first issued in 1843, which is edited by Mr. E. L. Garbett, and now takes the title of "The Student's Guide to the Practice of Designing, Measuring, and Valuing Artificers' Works." When asked, in the absence of Mr. Dobson, to add such memoranda to the work as seemed most necessary, the present editor thought the most useful addition he could make would be "a brief account of the present practice of designing the works of each trade, with a view to its improvement." This he has done with acuteness and ability. He has availed himself largely, with due acknowledgment, of the labours of the late Mr. Alfred Bartholomew, whose work on "Practical Architecture" will long keep his name in respectful memory. At starting, Mr. Garbett enforces the useful distinction between "decoration" (gracing, *decor*—grace, beauty) and "ornament." All human work should have decoration, but all need not have ornament.

"By ornament (he says) is properly meant something extraneous to the work, added for the sake of beauty; some *thing* added, observe, while decoration is only some *work* added. Thus decoration includes all ornament, but there is plenty of true decoration which is not ornament. That only is ornament which involves either the adding of unnecessary matter (as an ancient statue or finial, a modern tower or portico), or the leaving matter that would, with less labour and equal structural efficiency, have been removed (as a crocket, a bas-relief figure). To confound, therefore (as an excellent critic has done), the terms beauty, decoration, and ornament, is as new and perplexing as if we should confound blackness, blackening, and blacking."

The structural and the decorative excellence must both come through one mind; ornament may be put on afterwards, but the gracing of the structure,—the production of beauty out of usefulness, without waste of means or the use of manual labour to save thought, must be the work of the designer.

"You may have men called engineers, and men called decorators, but neither *real* engineering nor *real* decoration (of building) can you ever have, except the same man profess *both*. For observe, a pile of useful undecorated things, covered with beautiful useless things, is neither right building nor right beautifying. It is right in no sense, for it is not human,—it is no more than a beaver and a monkey could make between them out of old clothes. To be a work of art—to be worthy of humanity—not only must the whole, but also every member, every detail (except ornaments), be a piece of decorated utility. So that every the smallest part (except ornaments) must be designed by some one who is engineer and decorator at once."

Looking, then, for this decoration in all structures, that our works may be distinguished from those of the brutes, and finding none of it in modern engineering works, wherein as he maintains the most extravagant expenditure of money,—the employment of mere hand labour to any amount,—is made to hide want of previous thought and design, he is constant, and violent, and unexceptional in his abuse of these.

"Engineering and antiquarian mimicry," he writes, "are both varieties of the same art, the art of concealing the absence of art. Or rather, the latter is the art of concealing it, and the former that of palming it off by impudence and noise. Both are open abdications of the same human prerogative, both brutish; only that one takes the monkey or parrot, the other the swine for its model. Now it is not, in this latter, the material, or the absence of ornament that disgusts; but simply the absence of design,—the reversal of that quality most admirable in the works of nature, viz. foresight and provision for all contingencies from the first. Architecture, in its progressive times, aimed at the utmost approach to this,—at an excellence the same in kind with that of nature's works, though of course always imperfect in degree; and so did the earliest works called engineering, (Smeaton's, for instance), which are architecture,—far more truly so than Chambers's or any then or now called so. But *now* engineering works appear to renounce this aim, to be planned just as they proceed, or as difficulties occur to the mind; the *design* usually impracticable or useless, and every failure cobbled up just as it occurs (either actually, or to the designer's mind, or to *other people's*); whereas, in a work of art, all the members have so mutually influenced each other's design, that often we cannot discover by inspection any one thing to have been certainly planned before or after another; and if we can, we call this an "*afterthought*" and a blemish. But the principle of engineering is to be *all* afterthoughts, from the second thing made or planned to the last. And this, its exact contrariety to *design* or *art*, as well as its expression of unparalleled, unbounded, self-sparing,—unchecked power and will to waste *any* amount of others' labour for the *least* of the designer's own, is what must render our great iron structures ever painful and humbling to behold, like the pyramids of enslaved Ham,—ghastly blots permitted on our planet's face, as monumental warnings to what self-interest in its unalloyed simplicity may bring us."

To a great extent he is right; errors and ignorances have been plastered over with gold: were the works of some of the civil engineers holding high reputation minutely and honestly inquired into, their authors would stand exposed as dunces and jobbers: some of the "triumphs of engineering" are due to little other than the command of unlimited expenditure, uncontrolled power, and the means of trying again, in the event of failure.

Nevertheless, unconditional abuse of a whole class is, in this case, as it must always be, unjust.

The writer says truly, that the ugliness of English brickwork springs from irrationalities in construction, and would disappear, if we would make the various arrangements simply with a view to their material ends.

"These would require the roof to overhang as a cornice, and thus to present a surface of incombustible material alone, which is very easy, though never attempted; the London roofs being, to avoid it, kept within the building in an absurd manner. The next absurdity is the fenestration, brought to its present state by the window-tax, which has taught us to do with about half or one-third the windows thought necessary in the same latitudes elsewhere. Now the removal of this tax, and of the restrictions on the manufacture of bricks, leaves no pretext for any one of the peculiarities that have made our fenestration so unique in ugliness; viz. *fewness* of openings, excessive *width*, irregular positions *not over each other*, extreme *shallowness*, and the sinking or cracking *square top*. Even supposing habit to shut our dwellings against more light, or more quantity of window area, it ought to be divided among twice as many apertures. Of course, under a tax regulated by their number, not their quantity, it was expedient (though constructively absurd) to make them few and wide; but otherwise, every object, whether the equable diffusion of light in the room, or of strength in the wall, requires them just the reverse, numerous and narrow. Hence even the *temple* windows of all real architecture (which, like everything about a temple, were properly enlarged beyond the same features in a dwelling), are yet, if not actually narrower, far narrower in proportion to their height than ours. This applies to all old windows, Greek, Roman, Byzantine, or Gothic, not indeed equally, but increasingly, as art improved."

The increased number of windows and their more graceful proportions would improve the exterior, he continues,—

"But this is not all; the number of openings being no longer restricted, there is no reason for getting the utmost light from each, and therefore no reason for a square top fitting the ceiling;—all imitations of antiquated or infant art (as of straight coverings, after the invention of the arch, for instance,) being barbarous and apish. The forms proper for window-arches are the semicircular, the segmental (of not less than a quadrant), the pointed in any proportion lower than equilateral, the segmental pointed (or castle arch), the three-centred and four-centred pointed (each in any proportion lower than equilateral), and the round or pointed trefoil arch; all except the two last being producible with one, or at most two, wedge-shaped bricks, without cutting, except to accommodate their tops to the courses of the wall. Thus we have plenty of scope for more variety than those spurning utilitarian fetters seem ever to have developed."

His assertion that the use of girders to support a cross partition, over an undivided room below is "wholly indefensible and inexcusable under any circumstances whatever, or in any materials," seems to us untenable. The writer says,—

"Indeed, the subjecting lengthy bars or beams, or any masses longer than twice or thrice their depth, to a cross-strain or any force tending to bend them, is (except in the unavoidable cases of flooring-boards and their immediate bearers) at once too unnatural to occur to barbarous builders, and too inartificial to be palmed off on any civilised community not blinded by excessive sophistication; and we owe the appearance of such things (unseen till the last few years) solely to a school of self-styled "engineers," that seem to expect the world to believe rude and artless shifts become prodigies of science by a mere change of their material; that *skill* is shown in getting made in iron, things too rude and skilless to stand in weaker, or be tolerated in more familiar materials; and that because its strength and stiffness enable it to retain almost any form, the produce of Colebrook Dale furnaces is not only a substitute for brains, and to do *their* work, but *they* do get the credit of it."

What should we say, he writes, of a beam of *stone*, in any rude antiquity, ten or twenty times its depth, supported only at the ends, and loaded somewhere between them with a wall or column? and yet engineers would persuade us that in iron such an arrangement is allowable. And why not? We can be quite certain that the iron will perform its duty efficiently, just as efficiently as the "tied arch," which the author proposes to substitute: and why should we not avail ourselves of the convenience it offers? It is no argument against the employment of girders, to say that the tendency of the material in that position is to break. The tendency of joists is to break; the tendency of the brick walls which carry them, is to crush; but we know they will not, because we shall not put sufficient weight upon them to bring this about.

The whole "copyism question" he finds resolved by the one formula of Mr. Ruskin,—

"That all ornament is base which takes for its subject human work, that it is utterly base,—painful to every rightly-toned mind, without perhaps immediate sense of the reason; but for a reason palpable enough when we *do* think of it. For to carve our own work, and set it up for admiration, is a miserable self-complacency, a contentment in our own wretched doings."

He thinks it makes clear,—

"How a form that is beautiful on an old building might, when exactly copied, be base and odious,—how what is lovely on Westminster Abbey might be grossly vulgar on Westminster Palace, or what is grand on the Parthenon be ridiculous on a Philadelphian bank. If a person did not see that the same form which on the old work evinced a man's mind, on the new evinced a monkey's, we had nothing more to say, no common standing-

ground. Now Ruskin's formula makes this a degree plainer, and I should think plain enough. The thing which we copy (say a pinnacle) is, in the old work, a *member*, an organ, a piece of ornamented utility; its general form or design, for material usefulness, is of course a human invention,—or it may be the millionth version, imitation, or, if you will, "copy," of a human invention,—but *it is not set up as ornament*. What it may have of ornament, is abstracted imitation of nature. But the same form copied, as we copy it, is no longer an ornamented member, but simply *an ornament*; therefore an imitation of human work as ornament,—and therefore base, if you accept the above rule."

Against the "restoration" at Westminster, Ely, Chester, he speaks violently, and says,—

"Nothing would induce me to make, on any cathedral, any addition or restoration, great or small, from a door to a nave (for which there was not *complete* authority), *in any style but my own*,—that which, on due study, I should deem to arise out of the materials, knowledge, and social condition of the present day, at that place, and keeping in view the harmony (not mimic identity) to be kept with the skeleton form and degree of decoration (not style) of the old work. And I believe any mason of moderate intelligence, pursuing this plan honestly, would do more satisfactory things for this purpose than the first architects of the day following the present system."

Of the writer's views on ventilation, we may take another opportunity to speak. Suffice it at present to say, that the book is full of thought, and eminently suggestive; it is extreme in some of its views, and open to objections, but nevertheless calculated to advance the progress to rational architecture, right structure, and right decoration.

THE NEW NATIONAL GALLERY.

CAN it be true that so preposterous an idea should have been started as to convert Kensington Palace to the purposes of the new National Gallery? Can it be supposed that we should set at nought past experience, and play over again the extravagant and wasteful farce enacted in Trafalgar-square? There the old royal stables were patched up, and the costly parsimony practised of bringing in the portico of Carlton House to produce a building, the most insignificant, unsightly, diminutive, and unfit for the purpose, that could be well conceived; and that on the plea of economy! Away with such puerile ideas! What has hitherto been the result? The present National Gallery cost some 90,000*l.* and every one exclaims against it, as in every respect unworthy. It is a total failure. No such parsimonious feeling directed the works at Windsor. There a million, and perhaps more, have been spent. But there is something for the money. There is a certain air of dignity, a certain grandeur of intention; in fine, *some* success. Who asks the costs? Who, now, that looks at Whitehall Chapel, or Greenwich Hospital, or King's College Chapel, Cambridge, or any one of our Gothic cathedrals, for a moment considers the enormous sums bestowed on these noble erections? The reason is obvious. Do anything well, and then no one will accuse you of extravagantly laying out your money, whatever the sum. Paris is a noble city, but millions upon millions have been expended to render it so. The Madeleine, the *Arc de l'Etoile*, the Luxembourg, the Louvre, the *Hôtel de Ville*, the *Palais du Ministère*, *Quai d'Orsay*, Versailles, Fontainebleau, have absorbed countless sums. Did past—does the present generation feel it?

H. R. H. Prince Albert has taught us a great lesson: let us profit by the wisdom which guided his proceedings in the Great Exhibition of 1851. It was a gigantic and well-digested plan: it embraced every contingency: all nations were to take part: no branch of natural or manufactured productions was to be omitted: the vast space of twenty-two acres were to be covered in, and a pile raised to cost 150,000*l.* and this for a mere temporary purpose.

Let me endeavour, however feebly, to impart a like completeness to our new National Gallery, conceived on no puny scale, and including many classes, connected with art, which with us find no home at present.

In the first place, the leading ostensible object is a National Gallery for the exhibition of pictures. Let this *be* the leading purpose if you will; but it should be *one* of *several* important features. There must be galleries for historical and religious pictures, and for landscapes on a large scale, with light from above properly admitted and distributed, and in spaces capacious enough to allow them to be seen and appreciated, at a distance as well as near. There must be smaller galleries and rooms for cabinet pictures and productions of less size down to minatures, where the visitor may study them undisturbed by other disproportionate subjects; the attention not be distracted by incongruities of juxta-position, and the light entering from the side rather than from above. There are some paintings seen best alone on a screen, other objects of art in glass cases. The cartoons of the masters, their sketches and models, demand every variety of accommodation, and one production will occupy well the space or walling unfitted for another.

So much for the collection of pictures, which, I presume, is to give room for the exhibition also of medals, drawings, prints, and such like works.

But we are a practical people. The amateur will admire and gratify his refined mind by the contemplation of these masterpieces: they infuse a taste also into the multitude. But shall this be confined to pictures alone? Shall it not pervade our manufactures, and let us at length breathe an atmosphere of art in our dwellings and throughout our every-day wants, where our furniture and utensils, the fabrics we constantly employ and wear, shall not satisfy us, unless, as Redgrave and Owen Jones justly remark, they please us in form and colour and in the making up.* I claim, then, a suite of rooms for a collection of a series of the best examples of art applied to manufactures; and where so appropriate as in this building, this palace of art? Our earthenware, our china and porcelains, our plate and plated articles, our carpets and hangings, in fact, every species of handicraft connected with fine art, compared with samples of the highest class from other countries and of other times. How suggestive, how instructive, how appropriate would such a collection *here* be. I start no new idea, except as to the *locus in quo*. It has already been partially acted upon by the Prince and the Royal Commissioners of the Great Exhibition.

Again, where could there be a spot so appropriate for a museum of our national antiquities? And this, to be complete, would occupy a considerable range of halls and rooms, and many might very properly be distributed in the courts. Nor would I neglect the hint afforded by Louis Phillippe's deeply interesting collection of historical memorials at Versailles. I would hunt the country through, rich in such precious relics, and not a mansion, a church, or public building should be unsearched for authentic portraits, statues, and busts of our sovereigns and distinguished personages, which should be reproduced and placed here in regular chronological order, so as to afford a complete summary and illustration of British history. And the very school-children should be brought hither, to gain their most impressive lesson of their country's doings and their country's ennobling characters in past times.

But there is still a national want unsatisfied,—an object, the absence of which is each day more felt, and each day the remedy more called for. If a great man dies, and the voice of the people demand a monument to perpetuate his virtues,—to bring them more palpably and constantly before the attention, and to stimulate the emulation of future generations,—the question arises, "*Where is it to be placed?*" Westminster Abbey is full. St. Paul's, and, in fact, every place of worship, is unfit to receive memorials of all men of all beliefs, and whose great claim on a nation's gratitude may be irrespective of the religious creed of the individual. A provincial town may be too local for his wide-spread glory; and our atmosphere is inimical to the exposure of works of art to our rugged, variable seasons. We want a Walhalla, such as Bavaria has for her great and good men. We want our Pantheon of Antiquity, not to deify and worship our noble spirits who have lived among us, but to pay this tribute to their worth, to recall their features to our children's children, and bid them deserve a like reward for services rendered to their country, perchance to all humanity.

Let this, then, be the central object of our national museum,—a hall of glory to receive groups, statues, busts, and pictures of our great ones. Here no religious scruple need deny a spot to the statue of Byron, or a tablet to the historian Hume.

The last and not the least important question in the eyes of most people, upon which I shall briefly touch, is the cost. Now, without for a moment justifying a lavish expenditure, but merely to produce what is fit and becoming, it may be assumed that no work of art, executed with the highest skill, and with the best materials, and conceived by first-rate intellect, will cost a *little* money; and there is none which makes a better return for the outlay.

Such a project, grandly planned, and adequately carried out, must be nobly paid for. The House of Commons will, first and last, and very properly, spend perhaps a couple of millions upon the building for the legislative business of the nation. Will this National Gallery be a less useful, or a less important object, when we consider it as instructing the people, improving the art manufactures of our kingdom, and thereby increasing our commerce; paying a debt of gratitude to departed worth, teaching the nation its past history, and preserving the memory of its peaceful glories? A three-decker will cost from a hundred to a hundred and fifty thousand pounds, to last only a few years. Shall we then meanly seek to impoverish by our niggardness a noble monument of art, which must be progressively built, which will occupy our best artizans and artists, develop the capacities and resources of our men of genius, display the fine materials of our country, bring into operation our rarest inventions, and enshrine the mementos of England's noblest hearts and most gifted minds? And shall we forget that our New National Gallery is to be the receptacle of the generous contributions of individuals, who have already announced their intention to present, if a fitting building be erected, their collections of works of art, the lowest estimate of which may, without exaggeration, be taken separately at tens of thousands of pounds? Are these to be housed in a patched-up barn?

T. L. DONALDSON.

University College.

A recent number of THE BUILDER records the rumour, "that a *certain comic artist* is actually making designs *at the request of the authorities*, for the proposed National Gallery." If this be true, *Punch* must be at the bottom of it, and we shall have a "Comical National Gallery." *Risum teneatis amici.*

EXCURSION TRAINS.—We regret to notice that the excursion-train system, which we may be said to have originated, and which is still yielding a profitable harvest to the railway companies, is in many cases conducted in so disorderly and shameful a manner, that it is but too likely to come altogether to a speedy terminus. Ideas of scrambling want of accommodation, neglect of time, destruction of clothing in open horse-boxes near the engines, and other disagreeables, are fast obliterating all pleasanter associations as to *railway* excursions in the minds of the working classes; and the companies, in their desire to turn the system into all profit and no outlay, are likely to disgust all and sundry with it, and very soon to bring the profits themselves arising from it to a contemptible *minimum*.

* Did not the French department of the Great Exhibition most fully and satisfactorily prove this by the delight imparted to every visitor in the varied application of tasteful design to every object, however humble.

A QUESTION AS TO RESTORATION AND PROGRESS.

IN common with most London folks, I have managed to steal a day or two from business in beautiful weather, and in the course of my travelling I visited one of our famous old abbeys. So many thoughts crowded upon me during and after my visit, that I venture, at the risk of being thought presumptuous, to send them to you for insertion in your excellent paper, if you think them worthy of it. In the first place, I was struck with the appearance of desolation and ruin, where anciently it was apparent grandeur of design and magnificence of decoration had been combined to produce an overwhelming effect upon the worshipper; and I then thought why should we not restore this building as it was—build up the wounds caused by the destroyer, trace out carefully the labours of the decorator, and in the spirit of the ancient workers replace its lost beauties. The building was well worthy of it; but then arose one difficulty, about which my thoughts were busy:—the central tower, both transepts, and some bays of the nave were Romanesque in design: the extension of the nave was Early English: the choir again was Decorated: a screen at the east end was in the Perpendicular style: the organ loft in the north transept was in a debased style of the Renaissance; while immediately behind it arose the large window lighting the transept, which had a four-centred arch, and therefore, I suppose, belongs to the Tudor period.

Now, one thing that perplexed me was, how was all this mixed material to be harmonized? If you had begun to dispense with any one style you must dispense with all, for it is quite evident that the building is a r flex of the fashions that prevailed in architecture through the different ages of its erection. Now, what I want some of your learned friends to solve for me is how to deal with the restoration of such a fabric. As to favouring one style at the expense of another, that is absurd; because a succeeding generation might think differently from us, and undo our work, and call what we had done in our wisdom by quite a different name fifty years hence. This is the first point I want answered. Now for another.

Over the small door that leads from the side aisle of the chancel into the south transept, I observed that the thick coating of whitewash on the Romanesque arch had been in one place rubbed off, and what to my prying eyes seemed to be revealed was a Byzantine or Roman scroll in colour. Now, I have no doubt that this part of the building, when first erected, must have been one glow of colour from floor to roof: the small glimpse I got would lead me to expect great things from a careful scraping of the walls. The point here, then, is,—how will you harmonize all the styles I have named in point of colour? If I recollect my lesson aright, the treatment of Romanesque colour is breadth and boldness, while the Tudor is little better than heraldic dabs of paint and gilding. Answer me this, ye wise men. And then, again, the utilitarians will say, what is the use of restoring a building for merely rustics and visitors to gape at, and which only stretches out its huge length like an icthyosaurus in the heart of a dull fossilized country town, from which the stream of busy life has been diverted? Now here I will turn Solomon, and tell you what I think about it. I should like to see the building restored thoroughly throughout, not as a place for rustics to gape at, and vergers to profit by, but to make it what it was originally intended for,—a centre of intelligence and a means of usefulness to the surrounding neighbourhood. Such were the intentions of the founders and benefactors, though they were perverted by the ambitions, the selfishness, and the ignorance of those by whom the trusts were to be administered and the benefits conferred. Those who abused their trust were put to the rout long ago; but, unhappily, the institutions themselves got such a bad name through the wickedness of their administrators, that they have never recovered the blow, and only remain like fossils in an age of remarkable progress. Now, how shall we galvanize them? I will tell you, Mr. Editor. The choir and transepts I would retain for divine worship exclusively. The Lady and other chapels are at present in ruins. These I would devote to my purposes; also the chapter-house, library, dormitory, refectory, cloisters, &c. &c.; and all these I would restore exactly as they were built; and all these together I would make a great public educational establishment, open to all who chose to avail themselves of it.

England is confessedly too utilitarian. Unless a pursuit leads to pounds, shillings, and pence, it is naught; and so only those are followed that lead to this desirable end. These are mostly mere dull systems of routine, not generating thought, and so the age becomes an age of mediocrity. Now, Sir, restore each of these old abbeys, and establish in each of them a dozen professors, with stipends of 300*l.* per annum or so:—your men of genius, so they pursue their studies, care little for more than will honourably sustain them. Exact from them a moderate amount of teaching for their stipend, and you will soon find the institution crowded with students of all ages, desirous to add to the little they know,—the young farmer to his chemistry, the young squire to his policy, the gardener to his botany, the grazier to his zoology, the miner to his geology, the poet to his rhapsody, &c. &c. It is generally supposed that education is merely shaping the mind of the child; but that which we, as a nation, mostly want is, the scientific attuning of the erratic genius,—the hammering the native ore into the tuneful metal that rings responsive to the prompting of noble thoughts, and else would return but a dullard sound. Such institutions as these scattered over the country would do an incalculable amount of good, by drawing up the hidden genius that now expends itself on trifles or worse things, would elevate the tone of surrounding society, and diffuse its influence even to the hearth of the humblest villager, whose gifted son would carry his spark of genius to this fount of knowledge, and cease not till the broad refulgence of his lamp had lighted up the land.

Aha! my enemy of the breeches pocket will say, where are your funds to come from? I answer that no doubt Mr. Whiston and gentlemen of his way of thinking could show where they might be found sufficient to restore the buildings, appoint the professors, and render what are now fossil reproaches living engines of progress.

A WANDERING AMATEUR.

THE VICTORIA PIER, PORTSMOUTH.

A LOCAL paper, with reference to the desire of the directors of this "snug little property" to extend their structure beyond its present boundaries into the harbour's mouth, and excavate the bottom to enable steam-vessels to come alongside at the lowest time of tide, suggests in lieu "a *floating stage* to run out from the present pier or platform to the distance of fifty feet or more, with a guy chain each way, as, when occasion required, it would only be necessary to let go one chain, north or south, to remove the obstruction to the free navigation of the harbour. This simple contrivance would meet all the requirements of the case, and cost the company at the utmost not more than 500*l.* to do well." It is time something was done: we crossed from the Isle of Wight the other day and were tossed about in a small boat, and wetted through, before we could land, the steam-boat not being able to approach the pier.

We, in our turn, will give the directors a piece of advice, and that is, not to charge a traveller carrying a carpet-bag, 3d. for the miserably insufficient accommodation they are able to afford. Persons who are interested in the Isle of Wight should strive to lessen the obstacles to a ready communication.

At Ryde they should contrive some means of carrying passengers from one end of their long pier to the other. In this town there seems to be much activity and life just now; indeed, throughout the island the visitors are numerous. The cottages and other buildings which have been recently erected or are going on, do not seem calculated to increase the beauty of this, which is certainly one of the most beautiful pieces of England. A central "committee of adornment," with branch boards, could do much good here, if it were but by preventing much ill.

CURSORY COMMENTS AND SUGGESTIONS.

IT has often struck me, Mr. Editor, that under an occasional title such as this, many useful and amusing scraps or crumbs of comment and reflection or suggestion, on points, topics, or illustrations which have previously appeared in your columns, might be gathered up and recorded under separate side headings,—scraps, I mean, not altogether meriting the dignity of separate articles, however short, but of too much importance sometimes to be quite thrown away, without some little loss of interest or utility. Many a time, I am sure, in reading an article, on whatever topic, in your pages, the reader must pick up ideas or suggestions of this description, of which he would willingly "make a note," however rough or hasty, for you to put into shape and to thrust in amongst others under this standing title, whereas, having no such fitting place for them to appear in, they drop into oblivion, although they might even happen to be of value when afterwards turned over and farther reflected on in the minds either of other readers or of the author himself.

"What improvements in science might we not flatter ourselves with the hope of accomplishing," says Dugald Stewart, in his Elements of Philosophy, "had we only activity and industry to treasure up every plausible hint that occurs to us! Hardly a day passes when many such do not occur to ourselves or are suggested by others; and detached and insulated as they may appear at present, some of them may, perhaps, afterwards, at the distance of years, furnish the keystone of an important science."

I speak from experience: while yet a mere youth, I stumbled on this very passage in reading the works of Stewart, and immediately converted it into the standing motto of a series of note-books under the title of "Chaos," which I have continued now for about a quarter of a century. I have found this practice of noting down, on certain subjects, every likely hint that occurred to me, either in my reading or reflections, to be a most valuable one, and I can compare it to nothing so correctly as to a potent lever for lifting up the mind out of immaturity, passivity, and ignorance, and teaching it to think. Such a lever as this, let me incidentally recommend your younger readers to lay hold of without loss of time. My more immediate purpose in alluding to it, however, here, is merely to say that it is the benefit derived from this system of collecting stray ideas and suggestions in my own experience that induces me to propose the adoption of an occasional string of "Cursory Comments and Reflections" in THE BUILDER. These I do not mean that you should confine to mere suggestions in science or art, however, but think they should be made as miscellaneous as possible.

Perhaps the best way to indicate my meaning would be to begin at once with a few comments or reflections of my own; but my purpose was merely to suggest the occasional notification of such comments, not to make any; and to this purpose I would have felt it the more prudent to confine myself, inasmuch as not being either an architect or an artist professionally, any comments or reflections of mine on such subjects must necessarily be regarded as of little value: nevertheless, in order all the more clearly to indicate my meaning, and perhaps to show that even non-professional readers may be able in some measure to amuse or interest, in this way, on minor points at least,—I shall, *pro formâ*, note down two or three little comments and suggestions which I recollect of having made while lately reading in some of your past numbers.

The Guilloche and Fret in Greek Architecture.—Some remarks on magnetic science, and on certain "magical-looking experiments by Faraday" in diamagnetism, in an article on

1st May last, brought vaguely to my recollection a leader of yours on Mr. Ruskin's "Seven Lamps of Architecture," in which some allusion was made to crystals of bismuth. I turned up the leader in question, which, I found, dates so far back as 19th May, 1849. There it appears that

"In treating of beauty, Mr. Ruskin, insisting on the fact that 'all most lovely forms and thoughts are directly taken from natural objects,' assumes the converse of this, namely, 'that forms which are *not* taken from natural objects *must* be ugly,' and then attacks the Greek fret, on grounds which cannot be admitted as valid. He says,—'The first so-called ornament, then, which I would attack, is that Greek fret, now, I believe, usually known by the Italian name guilloche (!), which is exactly a case in point. It so happens that in crystals of bismuth, formed by the unagitated cooling of the melted metal, there occurs *a natural resemblance of it almost perfect*. But crystals of bismuth not only are of unusual occurrence in every day life, but their form is, as far as I know, unique among minerals; and not only unique, but only attainable by an artificial process, the metal itself never being found pure. I do not remember any other substance or arrangement which presents a resemblance to this Greek ornament; and I think that I may trust my remembrance as including most of the arrangements which occur in the outward forms of common and familiar things. On this ground, then, I allege that ornament to be ugly; or, in the literal sense of the word, monstrous; different from anything which it is the nature of man to admire; and I think an uncarved fillet or plinth infinitely preferable to one covered with this vile concatenation of straight lines; unless indeed it be employed as a foil to a true ornament, which it may, perhaps, sometimes, with advantage; or excessively small, as it occurs on coins, the harshness of its arrangement being less perceived.'"

Now I merely desire here to note, in connection with this subject, the rather curious circumstance, that while on the one hand the Greek temples are supposed to have been devoted to magical rites, on the other it appears that in those really magical-looking experiments by Faraday to which reference has been made, as well as in others of a like and even of a more extraordinary nature to be yet anticipated, diamagnetism is the agent, and the principal or most distinguished and peculiar instrument by means of which this quasi-magical agency is brought into play, is bismuth itself! May there not, after all, have been some truth amid the imposture or delusion of the ancient temple rites, and may not that heretofore obscure, but now again distinguished, substance, bismuth, actually have been the anti-type, as it is the only, the *peculiar*, and the perfect example of the Greek temple ornament in question? I do not mean to say that this "plausible hint" is at all likely to constitute the "keystone" to any further light on the origin of such architectural ornaments; but "detached" and "insulated" as its terms may appear, still in these days of new lights on Egyptian hieroglyphics, and of new discoveries of priestly sculptural symbol and architecture in Assyria, I do think that the hint is worth noting, all the more especially since bismuth is regarded as a species of antimony, which is well known to have been a distinguished instrument in the hands of the ancient magicians and alchymists, who called it their "foliated *magnetia*," and who, moreover, spoke of a regulus of iron and antimony (magnetic and diamagnetic!*) which they called the signate star of "*omogene* and *magnetia*," and the "seal of seals:" explanative of this I may add that as bismuth crystallizes in the form of a sort of squared scroll, volute, or spiral, so antimony regulus crystallizes in the shape of a star, which, as Brande remarks, these ancient men of science regarded as a sign and exponent of its pre-eminence amongst minerals. N.B. If I mistake not the star is an ornamental form itself on ancient Greek architecture no less than the scroll or volute and the guilloche and fret.

And, by the way, it is even a singular circumstance that multitudes of beautiful volutes or spirals, so close as at first to appear like innumerable concentric circles, appear on the sides of a glass vessel when chloride or bromide of antimony is precipitated in water and the subhaloidal oxide diffused over the glass and then dried; and that a precipitate of bismuth, when sublimed with iodine, displays much the same phenomenon in the midst of iridescent colours. I may here add, too, cursorily, that the very same singular chemical elements, antimony and bismuth, with others in different combinations, display strange forms, precisely such as the most marked of those on the ancient Egyptian sculptures,—*e.g.* the staff of power, the crux ansata, the royal frontal serpent symbol and other serpentine forms, and, most strange of all, the mummy form of Anubis, with projecting snout, and funereal feathers! There is also a marked vegetative power in these substances that displays itself in beautiful crystalline arborescence and flower shapes, with a multitude of others, such as tridents and even shining or iridescent fish forms, the latter of perfect outline, with fin and tail projections, but all mere laminated crystals, like the pearly fish forms used in card-playing more than anything else.

Patterns of Paper-hangings.—Mr. Owen Jones, in a lecture quoted by you on 3rd ult. remarks, amongst other objections to many absurd patterns of paperhangings, that "nothing is more common than to find strawberries and cherries, or other equally impossible combinations, growing on the same stalk. . . . Strawberries (he adds) do not grow on walls but on the ground; and although roses may be trained over walls, they are not endless representations of the same bunches, nor are they interlaced with satin ribbons." Now amid much that is truthful, it is a pity to be hypercritical, and I think that Mr. Jones is here rather severe on the paper-stainers or their pattern-designers. Perhaps he may have himself thought so since his lecture, if he has seen a little quotation from the *Revue Horticole*, titled "Strawberries grafted on roses," which has been going the round of the newspapers. "Strawberries and cherries" do not seem to be one whit more "impossible" as a combination, than strawberries and roses; and moreover, the rose tribe is a most extensive one, which comprehends, if I mistake not, even the cherry-tree itself, as well as the apple, and other pomaceous trees and shrubs. As for the endless representations of the same bunches, we have nature's authority and example for endless repetition of sameness no less than for endless luxuriance of variety. Look to the rose-tree itself in bloom, or the cherry-tree,—what an endless repetition of one and the same flower,—same not merely in form, but in colour. Indeed, it is only in the vagaries of the fanciful horticulturist that we have anything else. Nevertheless, I do not desire to blunt the edge of Mr. Jones's weapon on this face of it, as I think that some variety thrown in among the sameness of the "bunches" is much called for; but I can tell Mr. Jones, that although it is not very usual to interlace flowers with satin ribbons, it so happens that not a few within my own sight at the present moment were actually tied up and interlaced with silk tape or narrow ribbon, in the spring of the present year, for want of the more usual material at the moment, and it never struck me that there was anything *outré* or devoid of taste in such an accidental trimming to my flowers. By the way, it delights me to observe, that the art-acquirements of my antediluvian friends, the Chinese, as well as those of other Orientals, are noted, as, in many respects, worthy of imitation. These acquirements are inherited and traditional, and they add to the varied and still accumulating evidence of the existence of a grand and shall I say luxurious era of enlightenment or illumination throughout the east in extreme antiquity. N.B. The "wise men" dwelt in "the East."

Scotch Fir and Memel Timber.—One of your correspondents, "N.G." on 17th inst. says, in a short article on Pine Timber, that "the red fir or pine is the 'Pinus Sylvestris' common to the north of Europe, by our people called Scotch fir: in commerce it is called Baltic fir, Riga fir, Memel timber, &c.: it grows also in British America and the north of the United States, and is called red pine in commerce." Can it be possible that Memel timber is in England confounded with and called Scotch fir, or *vice versâ*? In Scotland, as I have reason to know, having there had a good deal of experience in timber, both native and foreign, Scotch fir is regarded in commerce as quite a different sort of article from Memel or Baltic timber. Your correspondent states truly that American pine is freer and less knotty than the red fir of the north of Europe, meaning thereby than either Memel or Baltic timber or Scotch fir. Memel timber, however, occupies a middle place in these respects between Scotch fir and American pine, as it also does in respect to size. Scotch fir is quite a dwarf species compared even with Memel, which is seldom if ever more than half the girth of the enormous American pine. I have seen Memel, however, of greater *length* than American, but Scotch fir in commerce not half so long. Moreover, the girth of Scotch fir is generally so much smaller, that the timber is usually prepared and sold in the round, while Memel, as well as American, are squared before being shipped or imported into this country. To the form of "deals" and "battens," in which form fir wood is also imported, I need not here allude, nor to the distinction and difference in commerce between Memel and Riga, or other northern firs besides the Scotch.

Buckingham Palace and a new National Gallery.—About the time that it was proposed to improve Buckingham Palace, you suggested that since the erection of such noble palaces for the Lords and Commons, the formation of at least as noble an edifice for the Sovereign herself could only be a question of time, and that, as a new National Gallery was then also talked of, it might be well to consider the propriety of converting Buckingham Palace into a National Gallery, and of devoting the money required for the latter instead towards the construction of a new royal palace, as worthy of the country and the Sovereign, as Westminster is of the Lords and Commons. Could not some such arrangement still be carried out?

Brompton Groves.—We all know the value of open spaces to a great and crowded population, but we do not always keep in view the vast importance of adjoining or of intermingling vegetation, as of trees, gardens, parks, in not only absorbing the foul or used-up air (carbonic acid) expelled from the lungs of that crowded population, but in recruiting the atmosphere with the free oxygen or vital air which they ought to breathe. Keeping these most important facts in view, the importance of the vegetation and the open space of such a gore or gushet, running in between inhabited districts towards the centre of population, as the groves and vales of Old Brompton constitute, cannot be exaggerated. Is it not possible to prevent the choking up of this breathing-funnel with brick and mortar. Should not the Government purchase the property, were it but for a foul-air consumer and an oxygen manufactory, wherewith to refresh the millions of the metropolis? Might they not do so, while at the same time erecting their proposed National Gallery in the midst of it, and converting it into pleasure-gardens for the people? It closely adjoins the very sites already pointed out as the most eligible for the Gallery,—namely, the vicinity of Kensington-palace. I have a lingering hope that something or other of this sort may yet be done ere it be too late.—J. E. D.

"BELGIUM AND THE RHINE."—As the Queen's visit to Antwerp will probably help to lead our travel-loving population Belgium-wise, Mr. Murray has issued, under this title, part of his well-proved "Handbook for Travellers on the Continent," now too well known to need commendation.

* It is well known to chemists that nothing more completely neutralizes the magnetism of iron than antimony, so that there is something profoundly significant and scientific in the ancient association of two such elements, as constituting a distinguished combination. The very name of "the magnetias" given to such substances as antimony, arsenic, and bismuth (or marcasite, as they called the last of these), when taken in connection with Faraday's discovery of their diamagnetic pre-eminence, is of itself remarkable.

CAPITALS FROM BOLOGNA.

FIG. 1.

FIG.

FIG. 3.

FIG. 4.

CAPITALS FROM BOLOGNA.

BOLOGNA, with its numerous colonnades, affords many beautiful examples of carved stone capitals in the Cinque-cento style, of endless variety. Fig. 1 is from a portico in the Strada San Donato; figs. 2, 3, and 4 are from the Palazzo Pisardi, formerly the Palazzo Lignano. E. H. M.

ON THE PRINCIPLES OF GLASS PAINTING.

That I may not appear to have attempted a runaway hit in the dark, I must beg your indulgence for a few words in justification of the letter you did me the favour to publish in THE BUILDER of the 31st July, which has called forth the remarks of Mr. Winston in your last number.

My object in that letter was to state some of those fundamental principles and conditions of painted windows which were not affected by any peculiar period of design, nor ever could be overlooked without injury to the art itself and detriment to the architecture in which it was embraced.

It is not every one who has it in his power to run away to Belgium, Germany, Italy, or France upon every occasion, and it is not by one but by repeated investigations that the principles of an art can be elicited, especially if its development be varied in character and extended over centuries of time.

——— "Study
Is like heaven's glorious sun, which will not be
Deep-searched by haughty looks."

Neither can any one be supposed to have seen every single specimen that exists; nor can much good be hoped for by quoting any particular window as a standard. The prevailing practice is the only ground that can be built upon, and if a *principle* sufficiently broad and simple, true in itself and universal in its application, can be found at the bottom, as the secret of the excellence we seek after, a rule of practice is obtained which may enable us to produce *original works* as true and as admirable as any that have been accomplished in time past.

Such a principle or principles I sought to establish, and in doing so felt called upon to make the remarks objected to by Mr. Winston.

One concession I have gained from Mr. Winston, in the present letter—*i. e.* that he is willing to allow that the "flat effect" which I have insisted on, prevailed until the end of the first quarter of the sixteenth century. He says, "Indeed the powerful contrasts of light and shade (to which I alluded in the paper referred to by your correspondent) are not commonly found before the end of the first quarter of the sixteenth century. I know of none so early as the fifteenth century, as your correspondent states. The glass at King's College Chapel, whose date is about 1525, is, *on this account*, and also from some of the brown enamel having perished, as flat as your correspondent could wish, and the window of St. George's, Hanover-square, which he erroneously calls a 'very late' specimen, may be placed in the same category." I can hardly complain that Mr. Winston objects to call St. George's a "very late" window, since the style he advocates, and which I would most strongly deprecate, owes its origin to a date still more recent. But place by the side of this a few words from the paper referred to in the first instance—"By the end of the fourteenth century, the new style was established * * * but though rotund and pictorial in principle, it was not rotund and pictorial in effect." Again,—"The adoption of the rotund or pictorial style, which it took *two* centuries to *perfect* in the cinque-cento." Now, I never denied the *existence* of the style lauded by Mr. Winston, but I do deny it to have been the effect of a gradual development of the art of glass-painting,

properly understood as such; and would maintain, on the contrary, that it arose from the admission of a *foreign principle*, at variance with the material, and destructive of the art in its relation to architecture.

Take one more extract from Mr. Winston's essay:—"Here complicated *foreground* groups, as well as important architectural accessories, are introduced: the relative distances of the various objects are preserved by means of light and shade, and the landscape background recedes and disengages itself from the figures and architecture, imparting to the picture the effect of atmosphere." This is a description of Mr. Winston's glass of the middle of the sixteenth century: this is the style which Mr. Winston tells us we have "made to our hand" for Palladian churches, and which, in his letter, he recommends for *St. Paul's*. Now it is quite evident that where, as in glass, each piece has its outline of lead, besides being outlined by its own colour, the appearance of rotundity or atmospheric effect can never be satisfactorily rendered, even with the sacrifice of the transparency. But glass painters may console themselves with this, that such effects are to the full as undesirable as they are unattainable; and the leads interfere with nothing, except this most objectionable "rotundity." An attempt at illusion is out of the sphere of painted windows, and can be very well left in the hands of our oil and water-colour painters. How much can be made of a flat surface, the sculptor of the Parthenon frieze has shown. What can be made of a flat surface in glass, the inventor of the east and lesser transept windows in York Cathedral, the Abbey Church, Malvern, and many other later windows, can testify. I say nothing of the earlier artists, as their practice seems admitted, though they did it in "ignorance!" Admirable works of ignorance, which our knowledge and our science find so much difficulty in equalling!

F. W. O.

PHOTOGRAPHY ON PAPER.

A WORD OF ADVICE.

In reply to a communication from Lord Rosse, as president of the Royal Society, and Sir C. Eastlake, as president of the Academy, to Mr. Fox Talbot, setting forth that the progress of this, which is a purely British invention, was likely to be hindered by the exercise as at present of his patent rights, Mr. Talbot has made a free present of his patents to the public, with the single exception of the application of the invention to taking photographic portraits for sale to the public, which he desires still to keep in the hands of his own licensees. Those who know the large sums of money which Mr. Talbot has spent, not merely in the pursuit of the art but in securing the right to himself, under advice which he now, perhaps, regrets, will appreciate more highly than the general public the value of the gift. That it will be advantageous to the progress of the art there can be no doubt.

We may save the money and time of some of our readers who contemplate a trial of this art if we say, that unless they are determined to apply themselves vigorously to it, and to work out success through many failures, they may as well abandon at once their intention. Those who, being interested in the sale of the materials and apparatus used, would persuade them it is a very easy affair to obtain satisfactory results and brilliant pictures, only deceive. The instructions for amateurs are still so far from definite, that months will scarcely make a decent photographer out of one unused to such matters. Notwithstanding the books published on the subject, there is still a want of clear and precise explanations of how to make a picture; and the French writers are as far from giving this as our own countrymen. The object at present appears to be simply how to lead the greatest number of persons who want a royal road to art to purchase a quantity of costly apparatus and ticklish chemicals, a new paper, a fresh acid; and we therefore feel it our duty to put the public on their guard, and to urge those who can do so to make the matter a little clearer than it is at present. We look for less humbug and more knowledge.

AMERICAN WORKS.

New York Iron Foundries.—In a sketch of the works in progress at the principal iron foundries of that city, the *New York Courier and Inquirer* asserts that there are no foundries in England that cast such massive pieces of machinery as those executed in New York; and, in proof of this, describes the operations of several of the principal firms. It states that twelve iron columns, cast by Messrs. Mott and Ayres, of the Chelsea Ironworks, for the Manhattan Gas Company, are the largest ever cast by 10 feet 8 inches, measuring 50 feet 8 inches in length, 3 feet in diameter at the base moulding, 2 feet at the cap moulding, and weighing 27,360 pounds each;—that they have been erected about the gasometer, and are surrounded by girders 45 feet in length. That they were also preparing an iron steamer for a passenger boat on the Magdalene river. Her hull is of iron, rivetted together, and the deck is composed of white pine. She measures 167 feet in length on deck, 30 feet beam, and 7 feet hold, and it is calculated that she will carry 70 tons, while drawing only 2 feet 9 inches of water. When heavily loaded she will carry 330 to 350 tons. Mr. Milligan, of the Warren-street Foundry, had invented what he has entitled the "Vertical Flue Boiler," which he has patented in that country and in England. The construction of this boiler is such that double the quantity of fire and surface can be brought in the same compass over the other boilers now in use, and it is claimed to be more effectual. All other boilers have horizontal flues and vertical tubes. One advantage is a boiler of half the ordinary size, taking less room, and requiring but half the quantity of water. The strength of the fire acting on the surface of the water has the effect of making steam with less fuel. In making the steam at the top of the flue it escapes more rapidly into the chamber. He was completing a boiler of this description to be used in moulding and planing mills, in 37th-street, with an engine 100-horse power. The boiler is 13 feet long, 7 feet wide, and 9 feet in height. Wilson Small was casting a variety of very heavy and peculiar pieces of machinery for the Naptha Company, at Brooklyn, to be used in manufacturing oil from rosin. These castings are entirely original, and are called "stills." Mr. Rodney, of the City Foundry, had recently completed and sent to their destination four engines and stamping mills, for quartz crushing in California. Hogg and Delamater were principally engaged in constructing "Ericsson's Caloric Engine." The *Courier*, moreover, gives details of many other works, such as great steam engines, chiefly for marine use, dredging barges inclusive, which it states are now worked by their own impelling engines in place of being dragged by other steamers.

Submarine Rock Blasting.—The reef rocks at Hurl Gate, New York, are in course of being blasted, and the *New York Tribune* of 22nd ult. in describing a resumption of the process, says,—"The firing recommenced on Way's Reef. Since then thirty-eight charges have been fired on that rock, and we hope it will be reduced to fifteen feet mean low water before the close of next week. The firing on Way's Reef is from a battery of ten pairs of plates, placed on the metal float moored on that reef. As many as nine charges have been fired during a single tide. As soon as Way's Reef is broken down, 'Shell Drake Rock' will be fired upon, until it is reduced to fifteen feet below mean low water. After that, 'Frying Pan,' a very dangerous rock in midchannel, and in rapid and deep water, will be attacked, and the firing continued on that rock until it is reduced to the same depth as Pot Rock, namely 20½ feet below mean low water. As soon as the rocks here mentioned shall have been reduced to the depths respectively stated above, operations, by Messrs. Maillefert and De Raasloff, will be commenced on Diamond Reef, situate between Governor's Island and the Battery. This is a large rock in 16 feet water. A charge containing 500 lbs. of powder will be fired on this rock. Two blasts will be made on Hallets Point, at the Gate, in which a preparation of potash will be used for blasting. The whirlpool has been entirely filled up by the *débris* of Pot Rock, and the smallest rowboat may pass over what was once Pot Rock, at any time of tide. This great and wonderful result M. Maillefert has accomplished by the firing on the surface of the rock under water without any drilling, 284 submarine charges, containing in all 34,231 lbs. of powder, and at a cost of less than 7,000 dollars. The money now being used to pay the expense of removing these rocks, is obtained as a temporary loan, at the rate of 6 per cent. per annum, and is to be repaid from subscriptions to a loan, reimbursable by the general or state government, or from other funds, hereafter to be raised. It is a work of great importance to the United States, and in fact to the whole world, and is conducted with the greatest economy. We purchase the powder, blasting-cans, and ballast-bags with ready money, and pay M. Maillefert weekly a stipulated price for each charge fired on the rock; he furnishing the labourers employed, the wires, battery, and floats. The expense of removing Pot Rock, Frying Pan, and Diamond Reef, to the depth of 20½ feet, and Way's Reef and Shell Drake Rock to the depth of 15 feet below mean low water, will probably not exceed 15,000 dollars. The success that has attended M. Maillefert's new mode of submarine blasting will greatly benefit the commerce of the world, will be the means of saving thousands of lives and millions of dollars in value of property; for this system of submarine blasting will be adopted in every place where dangerous rocks obstruct navigation, inasmuch as but a small sum of money is required to pay the expense, compared with what would be required under the old system. His excellency the Portuguese minister takes great interest in these operations, and he has communicated to his government the result thus far obtained at Hurl Gate. In April last the Portuguese war steamer *Porto* made dreadful shipwreck on a rock in the harbour of Oporto. The most influential families in that city have now obtained one of the Francis metallic life-boats, and are in hopes to obtain the services of Messrs. Maillefert and De Raasloff to remove this dangerous rock by submarine blasting. M. Maillefert has entirely recovered from the wounds he received by the disastrous explosion of a blasting-can above water, during the operations on Frying Pan, on 26th March last."

Boston Grave-stones.—In excavating for a common sewer in Atkinson-street, says the *Boston Journal*, at the depth of about 6 feet a gravestone was found, on which is the following inscription:—"Here lyes ye body of Mr. James Aresking, son of ye Reverend Mr. Aresking, in Scotland, aged 35 years. Died ye 1st Octor 1711." These mementoes of mortality are frequently disinterred in various parts of our city, and are evidence, not that bodies were interred in our streets, but that our ancestors were very careless of their gravestones, which were taken from the burial-ground to cover sewers.

The New York Exhibition.—The opening is definitively fixed for Monday, 2nd May, 1853. Ample funds, it is reported, have been subscribed to carry out the undertaking in a brilliant manner, and all parties join in forwarding its success. The corporation has granted a site for the building—the Legislature has incorporated the association—the Customs has constituted the building a bonded warehouse—and the company undertake to carry out and bring back if unsold, all articles intended for exhibition, free of expense to the owners.

SELF-ACTING BREAKS TO RAILWAY CARRIAGES.—A trial has been made on the South-Western Railway of a means of applying self-acting breaks, with a view to prevent accidents. On all occasions of stopping, it is said, the breaks acted satisfactorily: when the speed was great and the stoppage sudden, the self-acting breaks brought the wheels to a "dead lock;" on other occasions not applying themselves so forcibly. When the train was backed the breaks were instantaneously thrown out of action by the guard.

NOTES IN THE PROVINCES.

Northampton.—On the 3rd of August inst. the Bishop of Peterborough consecrated St. Edmund's Church. It is a cruciform Early English structure, with central tower, and consists of nave, south aisle, transepts, and chancel, and provides accommodation (on the floor only) for 800 persons, 534 of which are free sittings. The entire cost of the building, including boundary-wall, &c. is about 4,000*l.* The architect is Mr. Charles Vickers.

Chelmsford.—On the 12th inst. the foundation-stone was laid of the tower of Willingale Doe Church, which is about to be rebuilt, and of a new aisle which is about to be added. The church, dedicated to St. Christopher, stands in the same yard as that of Willingale Spain—a singularity, as remarked by the local *Journal*, of which there are but few instances in the kingdom. Some years ago the tower was struck by lightning, and though the damage was then repaired, decay has since been rapidly loosening its walls and eating into its foundations. Mr. Clarke, the diocesan architect, being called in, pronounced the tower decidedly dangerous. It was therefore resolved to take it down and rebuild it, and to add a new aisle, by which fifty additional sittings will be obtained. The estimated expense was 1,100*l.* There is still a deficiency of 200*l.* in the cost of the tower and aisle, besides which some further expenditure will be required on the roof. The tower will be eighty feet high, and is to be of flint-work, precisely in the style of the old one, and the aisle will be made to harmonize with the rest of the edifice. The builder is Mr. White, of Pimlico.

Yarmouth.—A curious mural painting has recently been discovered on the north side of the chancel of St. Nicholas Church, close to the Crowmer monument. It represents a number of armed knights entering a church: behind are two figures also in armour, but bare-headed, with mantles and hands uplifted. The countenances of the knights are perfect. They are clad in quilted mail of a very early date, with drawn swords in their hands, except one, who appears to hold his sword with the hilt uppermost.

Woolpit.—With a view to a knowledge of the probable cost of re-erecting the church tower, the vestry directed Mr. Phipson, of Ipswich, and Mr. Farrow, of Diss, to furnish them with designs, and accordingly three plans have been submitted, one by Mr. Phipson, and two by Mr. Farrow. Mr. Phipson's design exhibits a tower closely resembling the fallen one, with a lofty spire of stone rising from within the battlements. In one of Mr. Farrow's designs the spire rises directly from the tower, and, with it, is proposed to be built of squared flints with stone quoins. The other design is intended to harmonise with the ornamented porch and enriched clerestory, the belfry story having a double window on each face corresponding with the flint-work of the clerestory, and the tower being terminated by a battlement with crocketed pinnacles. Above rises a spire with crocketed angles and bands. The parishioners have agreed to raise by rate 300*l.*; and the rector and his family have offered a further sum of 250*l.* Public subscription is also looked to for aid in the re-erection. Surely the cost of a lightning conductor will be regarded as an indispensable outlay.

Faringdon.—The church is undergoing a thorough repair, and great alterations are being made in the interior appearance, and more accommodation in sittings will be provided. The organ has been removed to a new position, and a new vestry is being built, the old one being added to the accommodation. It is hoped the whole will be re-pewed.

Folkestone.—A new vestry is to be built to the parish church, with several other alterations connected with the building. Mr. Messenger is the architect. The following were the tenders, "showing how doctors differ":—

Porter	£162	0	0	
Hoad	142	9	0	
Foreman	125	0	0	
Johnstone	105	0	0	
Elgee	92	0	0	
Regis	88	16	9	accepted.

Sherborne.—The new building erected on a site adjoining the Union Chapel here, for the Sunday schools connected with its congregation, was opened on Thursday week. The new building is in the second pointed style of 14th century. It is of Sherborne stone, except the ornamental portions, which are of Hamhill stone. The roof is open timbered, and constructed of red pine stained, covered with ornamental tiles and crest. An open framed bell-turret surmounts the roof, formed of oak, having a spire covered with lead. The schoolroom, 65 feet long by 24 feet wide, is approached from Long-street by a flight of stone steps, rising about 8 feet from the level of the pavement, and is entered by an open stone porch: another entrance is also formed on the west side from the chapel yard. A committee-room is attached to the school. The building has been erected under the superintendence of Mr. Shout, architect, by Mr. Stevens, mason; Mr. Harris, carpenter; and other artificers, all of Sherborne. The cost, including site, is said to have been about 1,000*l.*

Carmarthen.—The new Roman Catholic chapel here was opened for public worship on Wednesday week. The chapel is built in the Gothic style, and is tolerably commodious. The nave is 74 feet by 26 feet 6 inches, and the chancel is 22 feet by 20 feet.

Cardiff.—Last week a seamen's chapel was opened here with some ceremony. It is situated on the eastern side of the Bute Docks, and was erected at the cost of the Marchioness of Bute. Fifty feet by twenty feet are its dimensions; and it is wholly composed of corrugated iron, with porch and small bell turret, three side lights, circular-headed (of wretched proportions), and quarries. It is devoid of any architectural pretensions, the interior being as plain as the exterior. Why did they not consult a professional man (asks a correspondent), and have some little style introduced? to show its purpose, and enable passers-by to discriminate it from the sheds for carpenters and blacksmiths, which abound on this spot for Messrs. Herringway and Pierson's works.

Tunstall.—A building occupied by a joiner and builder as workshops, but erected with the design of ultimately converting them into two dwelling-houses, fell in on Thursday week. The front and back walls giving way from the first floor, brought down the entire roof, and forced out one of the gable ends. Fortunately no lives were lost.

Bilston.—The contractor for the erection of the new court room and police station, Mr. Hemberrow, of Wolverhampton, has handed it over to the county magistrates. On the second floor, besides the court room, there is a retiring room for the justices, and a waiting room for the witnesses; below is an office for the resident clerk to the magistrates, a police room, waiting room, and two apartments for the police; and on the sunk floor are six cells for prisoners, with a cooking kitchen and other conveniences. Over the court room are the sleeping apartments of the officers. The building is plain in appearance. The architect was Mr. Trubshaw, of Stafford.

Upton.—Plans, by Mr. James Harrison, of Chester, architect, for a church at Upton, have been approved by the committee of architects appointed by the Church Building Society, who have promised 100*l.* towards the erection.

Nottingham.—The foundation-stone of the proposed institution for the blind of the counties of Notts, Derby, Leicester, Lincoln, and Rutland was laid by Earl Manvers on Tuesday in last week. The site, says a local paper, is at the top of High Holborn, in New Nottingham, and was presented as a free gift to the institution by Mr. Samuel Fox. It overlooks the Cemetery and the Arboretum, and from its commanding position on the summit of a considerable eminence the view from it is varied, extensive, and beautiful,—a circumstance of little importance to the destined inmates, by the way. The building itself will be in the Elizabethan style of architecture. It will have two fronts—one facing the Cemetery-road, and the other Chaucer-street, the former of which will be 96 feet by 104. The basement will be composed of Horsley-castle stone, and the rest of the best red bricks, with facings of white stone. It is to accommodate forty inmates, and will admit of being enlarged without affecting the character of the design. The erection will cost about 3,000*l.* but an additional 1,000*l.* will be required to complete it for the reception of inmates, including the purchase of a piece of land. It is expected to be finished and opened by this time next year. The architects of the design, which wa competed for last year, are Messrs. Aicken and Capes, of London. A large sum for the erection has been realised, but there is still a balance to be subscribed.

New Wortley (Leeds).—On Tuesday, says last week's *Leeds Intelligencer*, the first stone of a new church to be built at New Wortley was laid in "Chancery," in the heart of the village. It is to be dedicated to John the Baptist.

Dundee.—The new Royal Infirmary, lately founded, is to be in the Tudor style, chosen, it would appear, in order that the irregularity of the style may readily admit of any future alteration or enlargement. The general plan of the hospital is the corridor or single ward system. The principal wards are 103 feet long, 22 feet wide, and 17 feet high, affording 1,720 cubic feet to each patient, being about four times the space allowed in the old infirmary. Attached to every principal ward is a convalescent ward, bath-room, lavatory, scullery, &c. The principal corridor is 346 feet long, 11 feet wide, and 17 feet high, having four fire-places, and at either end a commodious lounge. The corridors serve as a means of communication between the wards, assist the ventilation of the building, and serve as a place of recreation and exercise in bad weather. The hospital forms three sides of a square. The centre of the front is to be used exclusively for domestic purposes. The rest of the building is devoted entirely to the accommodation of the sick. A lift is provided sufficiently large to accommodate a bed or cot to take the patients from the basement to the upper wards. The internal arrangements, according to the *Northern Warder*, have met with the approbation of the leading physicians of Edinburgh, London, and Dundee, and are pronounced by them to be such as may serve as a model for any future buildings that may be devoted to a similar purpose in Scotland. The hospital is to be constructed to accommodate in ordinary times 220 patients, but the corridors will be so arranged that in times of emergency they may be converted into wards, affording additional accommodation for 140 patients. Messrs. Coe and Goodwin, of London, are the architects.

Nairn.—A new Secession church is being erected here. The town is to be improved by the formation of a new street along the banks of the river Nairn, entering at the bridge at the east end of the town.

Miscellaneous.—The Kilmarnock Gas Company have reduced the price of their gas from 6*s.* 8*d.* to 6*s.* a thousand cubic feet.——The Arbroath Gas Company have announced a further reduction in the price of theirs to 5*s.* 10*d.*

LEEDS TOWN HALL COMPETITION.

IT may not be amiss to conjure up before the eyes of your professional readers some of the dark deeds that have been done in this "owl-watched" town, to let them see the fruits the tree has borne, and judge then of the harvest they may expect to reap as the reward for their hard art-labours in this competition. A few years back a gaol was wanted—plans were advertised for—designs sent in—and one, acknowledged as the best, selected; the committee then, as now, not "binding" themselves to employ the man who had shown himself the most competent.

The author of the chosen plan was not a novice in the art, but one who had gained a just meed of fame; yet, forsooth, because he was not a townsman, and honestly demanded his legitimate remuneration, others were found who, "for a consideration" of about one-fourth the due percentage, consented to assume the credit and to carve their names upon the entrance portal, the rightful owner of the

praise and pay being thus defrauded of his name and fee. Such were the first fruits of Leeds gaol—a foreshadowing of the acts of its inmates.

Again, the worthy guardians of the place and people wishing "to train up their children in the way they should go," desired architects to aid them, and in the hopes that the march of improvement had brought with it honour and good faith to Leeds, many contributed the fruits of their industry to the industrial schools. Once more the most meritorious plan was selected, but only to be carried out by those who had great interest and little principle.

These are the lessons they teach their children, and if the past gives such tuition, the present "will not depart from it."

Let then those who are content to receive 200*l.* 100*l.* or 50*l.* contribute their three month's brain-wear for the chance of it; but mark! tis but the *chance*, for with whom do they compete?—with architects united by blood and interest to the committee, and with a borough surveyor, who will in all probability unite in his one person the triune functions of a competitor, an umpire, and a clerk of works. With these chances, and with these prototypes, how little justice may be expected in the selection for these judicial buildings! Such is the patronage extended to our art in the town that bears on its insignia Minerva's bird, and such the justice of the borough that for its motto bears—

PRO REGE ET LEGE.

We have received several other communications on the same subject, to exactly the same effect. One of the writers says, "Let the town council name a competent tribunal to decide upon the merit of the designs, and let them, as in all fairness they are bound, give to the successful artist the honour and advantage of executing his design, and they will, without doubt, have an edifice worthy of the great community for whose use it is to be built, and will deserve well of all who love the fine arts, and desire to see them advance and keep pace with that mechanical skill in the development of which England at this time holds so high a place amongst the nations." The time for sending in designs has been extended to October 31st.

BUILDING FOR THE GREAT INDUSTRIAL EXHIBITION TO BE HELD IN DUBLIN, 1853.

THE first prize for the design of a building for the exhibition of 1853 has been awarded to Mr. John Benson, county surveyor, of Cork; the second prize to Messrs. Deane and Woodward, of Cork; and the third prize to Mr. Turner, of Hammersmith Works, Dublin. Our readers will remember that Mr. Benson, in conjunction with Sir Thomas Deane, was the architect for the building of the Cork Exhibition.

The following are particulars of Mr. Benson's adopted design. It presents a front to Merrion-square of 300 feet: the centre feature of the elevation consists of a semi-circular projection, which forms the eastern termination of the central hall. This will be an apartment of 425 feet in length and 100 feet in height, covered by a semi-circular roof upon trellis ribs, in one span of 100 feet. On each side of the centre hall, and running parallel to it for the same length, are two halls 50 feet wide, with vaulted roofs, similar to that which covers the main nave or hall of the building. The height from the floor to the roof of each of these halls will be 65 feet. They are approached through passages from the centre hall. In addition to these three halls are four compartments of 25 feet wide, running the whole length of the building; two are placed between the centre hall and the side halls, and two on each side of the latter; divided into sections of 25 feet square, forming convenient divisions for the purposes of classification. Over these compartments are spacious galleries, also running the length of the building, which will not only afford increased space for exhibition, but be a promenade from whence the effect of the three halls will be seen to great advantage. The ceiling of the halls being divided into panels formed by the trellis ribs, and the other constructive parts of the building, will provide opportunity for decoration. Light is admitted from the top. The construction of the building is marked on the elevation, and forms, in fact, the ornamental character of the design. There are also external galleries, which will be features in the exterior, and will be useful in providing access to the roof for repairs. The termination of each of the principal roofs to the east and west is semi-spherical. There will be three entrances in the front facing Merrion-square, under a range of verandahs, through which access will be had for the holders of season tickets and the general public. The materials of the building will be iron, timber, and glass. The latter will only be used for light, as before described. The parts of the roof at each side of the lights will be timber, covered with the waterproof cloth manufactured by Messrs. Malcomson, of Portlaw, co. Waterford. The trellis girders which support the galleries will be of wrought iron, supported on cast-iron pillars. The available area of ground floor will be 147,704 feet. Of wall space there will be 87,000 feet.

THE BRITISH ARCHÆOLOGICAL ASSOCIATION.

THE British Archæological Association have held a most successful congress in Newark and its neighbourhood, under the active presidency of the Duke of Newcastle. At the opening meeting on the 16th, the mayor presented an address from the corporation, wherein they said, after referring to the men of note who had proceeded from the district—

"Arrogating no share in the just eulogy of our ancestors, be it permitted us only to show you the extant evidences of their loyalty and devotion, and in singular and happy contrast to exhibit the marvels of modern device with which engineering skill has adorned this vicinity; while the British Archæological Association, under the auspices of your grace, pass in careful review the particulars of the scene, and with the lights of the time illustrate and identify them and assign each relic of antiquity to its appropriate age, effectually serving the cause of science, enhancing your own world-wide celebrity, and engaging for ever our grateful acknowledgments for distinction so conferred upon ourselves."

The President made an able address, remarking in the course of it with reference to the desire of the Association to spread abroad a correct taste for archæology, and a just appreciation of monuments of ancient art, so as ultimately to secure a general interest in their preservation,—"So well aware were the ancient Greeks of the value of such investigations as those undertaken by this society, that in Athens three men were paid by the State, whose duty it was to afford information to those who sought instruction respecting the interesting monuments of their country. With regard to our own country, however, so entirely deficient were the records of history from the third century to the beginning of the eighth, that, but for the researches of the antiquarian, that long period would be almost a blank in the annals of this island. Another most important subject, and one intimately connected with the science of government, had of late years received the attention of the society. He alluded to the bearing of ancient laws, and the influence of apparently anomalous customs, upon the habits and even the dispositions of a people. In France there was, or at all events there was till recently, a Government office, whose duty consisted in watching over monuments, and in securing the restoration of such ancient buildings and monuments as would otherwise fall into dilapidation or be destroyed by private persons. That important duty was, however, performed in this country to a great extent by voluntary associations, such as that which was now holding its meeting, and it had been most successfully performed in numerous instances, not by any actual power with which such societies were invested, but by the wholesome action of public opinion, induced by their representations."

Papers on Robin Hood and his era, by Mr. Gutch and Mr. Halliwell, were afterwards read; also a paper by Sir F. Dwarris, on the forest laws, courts, and customs, and the Chief Justices in Eyre, north and south of the Trent.

On Tuesday they breakfasted at Thurgarton Priory, and then proceeded to Nottingham, where they were received by the mayor, Mr. Felkin, and a meeting was held, the Duke in the chair, in the Exchange-rooms.

Mr. Planché read a paper on "The Family of the Peverels of Nottingham," and the members afterwards proceeded to inspect St. Mary's Church, the Castle, and other antiquities. The railway afterwards conveyed them to Newstead Abbey, where Col. Wildman entertained them, and a paper was read by Mr. Pettigrew on "The Abbey," and Lord Byron's connection with it. Lord Byron and Col. Wildman, the present possessor, it may be remarked, were together at Harrow School, and on becoming the purchaser of Newstead the gallant colonel received a letter from the noble lord expressing his satisfaction that the mansion had fallen into the hands of his old schoolfellow and monitor. Mr. Pettigrew concluded by observing, that all lovers of archæology must rejoice that a place so romantic in its character, associated with so many interesting circumstances, and so closely connected with the history of the greatest of the modern poets of England, should have fallen into the possession of a gentleman who had exhibited so true a sense of its value, and who had religiously preserved every memorial in his power connected with Lord Byron.

Worksop, Humber, Lincoln, Southwell were to follow, with more breakfasts, dinners, and papers than they can well get through; but these we will speak of hereafter.

ROYAL ITALIAN OPERA, COVENT GARDEN.

THE genuine success of M. Jullien's lyric play, "Pietro il Grande" gives us much pleasure. M. Jullien has done much to popularise good music in England: he has elevated the standard with the multitude, and deserves well of us all in consequence. In "Pietro il Grande," although the music may not be uniformly equal to that of Meyerbeer or Beethoven, who seem to have been his models on the occasion, he has surprised his best wishers by the invention and science displayed throughout. Without pretending to discriminate all the superior parts, we would mention the charming madrigal, *In sen dell' amistà;* the Muscovite soldiers' hymn, *Di Muscovia eletti figli*, the closing fugue in the first act, of the same air; Rossomak's war song, *Dell' armi*, in the second act; the quartett, the septett, and a charming passage between Peter and his generals at the close of the same act. Signor Tamberlik has raised himself, both as actor and singer, by his performance of *Peter;* and the same may be said of Madlle. Anna Zerr, who plays *Catherine*, the only female character in the opera. The part of *Rossomak* is a difficult and not pleasant one, but enables Herr Formes to show his peculiar power.

Messrs. Grieve and Telbin have, as usual, provided some excellent scenery: the sky and distance in the first scene,—the dockyard at Sardam,—and a snow scene of Moscow, seen through an arcade, in the third act, are very cleverly painted. The last scene—the throne-room in the palace, where we have columns of green and gold, a domed ceiling, chandeliers, and a flight of steps at the back, down which the whole glittering pageant passes—leaves nothing to be desired in the way of magnificence. The tent scene in the second act wants lights, the mass of dark costumes, in some cases more truthful than elegant, swallows up what there is.

M. Jullien and Mr. Gye have long worked together, and the costly and complete manner in which the latter has put his old colleague's work upon the stage is as creditable to him as a man as it is as an artist.

THE COMMERCIAL TRAVELLERS' SCHOOLS COMPETITION.—We understand that fifty sets of designs have been sent in, and that the committee propose calling in professional assistance to make the selection.

INTERIOR OF THE WALHALLA, RATISBON.

HERR VON KLENZE, ARCHITECT.

INTERIOR OF THE WALHALLA, RATISBON.

OF the exterior of this noted edifice our readers have already had descriptions. The building was twelve years (from 1830 to 1842) in course of construction. It stands, with its rising flights of steps and terraces, on the top of an eminence on the north bank of the Danube, and is familiar to all who have passed through the pleasant country in which it is situated.

We now give an engraving of the interior of the temple from a view by M. von Klenze, the architect. It is a single hall, 150 feet in length and 57 in breadth, besides a space of 25 feet in length at its north or farthest extremity, like the opisthodomos of ancient temples, separated by a screen of Ionic columns, of which order, too, are the antæ at the angles of massive piers, dividing the hall into three great compartments. The roof has no ceiling, but displays, by its inclined sides, in connection with horizontal beams crossing from pier to pier, a succession of internal pediments with faces divided into panels filled in with arabesques and figures in white and gold, relieved in part with colours. The roof-interior is lined almost entirely with gilt bronze plates, gold stars, and other decorations on an azure ground in its coffers. There is an opening over each compartment filled in with sheets of plate glass framed in bronze, through which an abundance of light is admitted.

The floor is inlaid with coloured marbles from Tegernsee, laid out in three grand divisions. The shafts of the antæ and columns are of marble of a brownish red colour, and their capitals and bases of white marble picked out with gilding and colours: the walls are somewhat like the columns. The frieze represents on a broad white marble ground the progress of civilisation in Germany.

The principal Ionic order is about 28 feet in height, besides which there is a second order of caryatides, 17½ feet in height, representative of female Scandinavian genii, the welcomers of souls to the halls of Odin and the Walhalla, or the regions of bliss. The figures stand upon the piers, detached from the wall, and thus avoid heaviness in the upper portion of the interior: there are six on each side, and two over the penetralia or inner hall. These caryatides are of marble, slightly polychromed in natural colours. They bear voluted capitals on their heads.

The interior is devoted to the reception of rows of busts of illustrious persons with other sculptures, marble candelabra, and seats.

GREEK ART IN ATHENS.

MR. C. NEWTON, in a letter lately read at the Royal Society of Literature, gives an account of the objects which he saw still preserved in Athens, and chiefly of the numerous fragments of the ancient Greek art contemporary with, and posterior to, the time of Phidias, with lists of these fragments, and notice of the places in which they are at present preserved. He says,—"It seems of great importance that good casts should before long be made of all the remains still existing at Athens—and this for several reasons. The sculptors in question are for the most part not at present accessible. No archæologist or artist can see them without a journey to Athens, and when on the spot would not know of their existence unless from his previous study. Even then he can only see them by making a special appointment with the curator, and his visit must therefore be a hurried one. They are not only difficult of access, but they are also in great danger from mutilation and depredation. Already has the beautiful group of the six seated deities, lately discovered, sustained irreparable injury, the hand and foot of one of the male figures having been broken off. In the present unsettled state of Greece the sculptures are necessarily insecure; and in the event of another revolution, what is there to prevent the Acropolis from being again a fortress, and again a mark for the cannon of the besieging party? The shells which in 1833 destroyed the roof of the Erectheum, would not be wanting to complete the destruction of the sculptures of Phidias.

A letter from Athens, of the 4th ult. states that the King of Greece had visited the Acropolis to examine the antiquities recently discovered there by M. Beulé, a Frenchman. Some of the excavations made under his directions are said to have brought to light the last steps of the staircase which led to the principal entrance, and the surrounding wall of the citadel. The steps are in Pentilic marble, and not a joint of them has been displaced. The door is 12 feet high, and of the Doric order. The lintel and the casing of the door are in a single block of marble. The wall is 21 feet in height. It is composed of different kinds of marble. At its base are pedestals and fragments of the Roman epoch. The upper part comprises the entablature of several Doric temples anterior to Pericles. Above the architrave is placed the frieze with its triglyphs in stone, and its metopes in marble in the same style as the first Parthenon. The cornice does not crown the wall, but is in its turn surmounted by an attic formed of fresh architraves and cornices which belonged to the interior of the temple. M. Beulé had commenced another excavation in the southwest angle of the great bastion to discover the construction of the western wall. He has found two other arches in perfect preservation, but they do not date further back than the Middle Ages. Several fragments of architecture and sculpture and twenty-three inscriptions had been discovered. A bas-relief, well executed, represents eight young Athenians dancing. M. Beulé had been presented by the King with the order of the Saviour, and was about to return to France.

DESTRUCTION OF ANCIENT BUILDINGS.—An Edinburgh paper says, in the ancient parish of Auldcambus, now part of the parish of Cockburnspath, Berwickshire, stands on a lofty position by the sea-shore the venerable ruins of St. Helen's church, hitherto much admired as presenting an interesting specimen of simple Saxon (?) architecture. The church is said to have been built so early as the seventh century, and to have been dedicated to Helena, the mother of Constantine the Great. What will the antiquarian, what will every educated man say, when he hears that very lately a large portion of this edifice, and that the most valuable in an architectural point of view, has been pulled down to repair a neighbouring stone dyke! Some modern Goth has smashed with relentless hammer the fine old arch that was so much admired.

RAILWAY JOTTINGS.

AN extensive fire, involving a loss of upwards of 16,000*l.* occurred on Saturday week at the store warehouses of the South-Eastern Railway, adjoining the station at Ashford. No portion of the building or its contents was saved.——On Monday in last week the masons on the Pensher Branch Railway struck work, and demanded that their wages be advanced to 4*s.* per day. This being acceded to by the contractors, the masons resumed their work on Tuesday morning.——A letter from Belgrade of 8th ult. says,—"It is seriously in contemplation to construct a railway between Belgrade and Constantinople. It is an English company which has an idea of this undertaking. Two engineers have been charged to survey the country, and to visit the spots by which it will be most desirable to carry it. They were recently at this place, and have by this time returned to Constantinople. They have expressed their astonishment at finding that the difficulties of the ground are trifling in comparison to the importance of the undertaking. They would only have from sixteen to eighteen tunnels, and those very short, to cut, six of which are under the Balkans. This same company had an idea of continuing the same railway into Asia, so that when the line was completed, the journey from London to Bombay might be made in fifteen days." The formation of a railway through the northern European provinces excites much attention, it is said, at Vienna, and is pronounced by the Vienna *Wanderer* to be a matter even more important than the Egyptian railway.——The following is from *Herapath's Journal* on the effect of the earth's rotation on locomotion. "Mr. Uriah Clarke, of Leicester, has called our attention to an article in the *Mechanics' Magazine* by himself on the influence of the earth's rotation on locomotion. It is well known that as the earth revolves on its axis once in twenty-four hours, from west to east, the velocity of any point on its surface is greater nearer the equator, and less farther from it, in the ratio of the cosine of the latitude. Mr. Clarke says:—'Some rather important conclusions in relation to railway travelling arise out of the view now taken. The difference between the rotative velocity of the earth in surface motion at London and at Liverpool is about twenty-eight miles per hour; and this amount of lateral movement is to be gained or lost, as respects the locomotive in each journey, according to the direction we are travelling in from the one place to the other; and in proportion to the speed will be the pressure against the side of the rails, which, at a high velocity, will give the engine a tendency to climb the right hand rail in each direction. Could the journey be performed in two hours between London and Liverpool, this lateral movement or rotative velocity of the locomotive would have to be increased or diminished at the rate of nearly one-quarter of a mile per minute, and that entirely by side pressure on the rail, which if not sufficient to cause the engine to leave the line, would be quite sufficient to produce violent and dangerous oscillation. It may be observed, in conclusion, that as the cause above alluded to will be inoperative while we travel along the parallels of latitude, it clearly follows that a higher degree of speed may be attained with safety on a railway running east and west than on one which runs north and south.' There is no doubt of the tendency Mr. Clarke speaks of on the right-hand rail, but we do not think it will be found to be so dangerous as he says. It will be greatest on the Great Northern and Berwick lines, and least on the Great Western."

HAARLEM LAKE.—It is said that the great work of draining this lake has been accomplished.

STATUES TO ST. PIERRE AND DELAVIGNE AT HAVRE.—The inauguration of statues in bronze of Bernardin de St. Pierre and Casimir Delavigne took place on Sunday week at Havre. The statues, executed by David (d'Angers), are set up in the Place François I. in front of the principal entrance to the Museum.

WORKS IN IRELAND.

THE Cathedral of St. Brendon, at Ardfert, in the county of Kerry, is to be restored, it is to be hoped, by competent hands.

It is stated that the Lord Archbishop of Tuam is about having eight new churches erected in his diocese, the designs for which are to be furnished by Mr. Welland, architect to the Ecclesiastical Commissioners.

The new bank erected by the Northern Banking Company at Belfast, from the designs of Mr. Lanyon, recently mentioned in the Editor's account of Belfast, has been opened. The style of architecture is Doric. Two projecting wings form the principal features of the front, and the central space is subdivided into three spaces by engaged Doric columns, recessed about two feet. A flight of steps outside approaches the interior, through a deeply recessed porch, with semi-circular panelled ceiling, executed in cut stone. In the vestibule is a second flight, which reaches the cash office, an apartment about 65 feet by 45 feet. This room is decorated with principal and inferior columns, is lighted by twelve semi-circular windows over each bay, groined into the cove above the cornice, and provided with doors leading into directors' rooms, &c. The basement consists of a vaulted space, devoted to safes for papers, bullion, &c. and heating apparatus room. The fittings of the office are of oak.

The drainage and navigation works undertaken by the Board of Works to connect Lough Corrib with Galway Bay, are progressing. A tidal or floating basin, two acres in extent, is being constructed. The length of quayage is 1,230 feet long by 20½ wide, with a lift of 14 feet, generally supposed to be the greatest in the United Kingdom. A canal, 1,322 yards in length, excavated through limestone, and enclosed by a coped wall, with five iron swivel bridges at intervals, is being formed. The shoals at Newcastle and Menlo have been removed, and the Friar's Cut deepened. The works on the improvement of the Lough Corrib Mill power will be finished this year. The canal connecting Lough Corrib with Lough Mask is 4½ miles long, cut through solid limestone rock, and the entire length has been opened, with the exception of 700 yards. By those works 20,972 statute acres will be reclaimed, and an increase of 1,400 horse power obtained. The number of men employed in this district is as follows:—Masons, stonecutters, carpenters, smiths, and other tradesmen, 183; labourers, 1,462. The result of these works will be to open a direct line of navigation 35 miles in length from Galway, through Loughs Corrib and Mask, and afford to Ballinrobe, Cong, Maam, Oughterard, Headford, and the surrounding country, the benefit of water communication with Galway.

A new Roman Catholic Church is to be built at Limerick, in the parish of St. John. Accommodation is to be provided for upwards of 5,000 persons, and the committee will expend a sum of 5,000*l.* on the building, exclusive of the cost of erecting a tower to contain a peal of bells.

The directors of the Clonmel Mechanics' Institute have selected the plans submitted in competition for their intended new buildings by Mr. J. J. Lyons, architect.

The first stone of St. John's Episcopal Chapel, May's Field, has been laid by the Lord Bishop of Down and Connor in the absence of Mr. Fenton, the Mayor, at Belfast. A silver trowel was presented to the bishop by Mr. Gladstone. The late Mr. Hamilton bequeathed 3,500*l.* towards the erection of this building, which is designed to accommodate 500 persons, and will be in the early Gothic style.

STATISTICS OF THE IRISH EXHIBITION AT CORK.—In a lecture at Cork on the Irish National Exhibition, the lecturer, Mr. Maguire, took occasion to mention that the attendance at the Exhibition had been as follows:—Season tickets, 36,006; two-shilling tickets, 5,661; shilling tickets, 12,253; sixpenny, 17,728, making a total, up to that day, of 72,458 persons who had visited the Exhibition.

ORNAMENTAL CEMETERIES.

THE ancient custom of planting cemeteries and decorating monuments with garlands of flowers, strongly prevailing at different periods in foreign countries, was carried to some extent in various parts of England. In the "Flora Domestica," it will be observed that the Romans alluded to the practice in their wills, and were strongly reprobated by the primitive Christians, but in the time of Prudentius the latter had adopted it, which is expressly mentioned both by St. Ambrose and Jerome.

At the present time, in Germany and Switzerland, it is very usual to observe the tombs cultivated with shrubs and flowers, and the monuments adorned with festoons of roses and jessamine. In the beautiful little churchyard at Schwytz almost the whole of the ground is covered with pinks; but amongst the numerous spots appropriated to the purposes of cemeteries, there is none equal to the churchyard of Wirfin, in the valley of the Salza. The tombs are ornamented with arabesque forms, with pendant vases, in which are placed flowers, and on either side perennial shrubs are planted, and, in addition, some graves are daily strewed over with fresh-gathered flowers, by friends or relatives of the inhabitants.

In some parts of this country, about the middle of the last century, the practice was very prevalent of strewing sprigs of rosemary upon tombs, particularly in the north, and likewise to place a basin of sprigs of boxwood at the door of any house at which a funeral was to take place, as alluded to in the following by Wordsworth:—

"The basin of boxwood just six months before,
Had stood on the table at Timothy's door;
A coffin over Timothy's threshold had passed,
One child did it bear, and that child was his last."

While in allusion to the practice, we may exclaim with Shenstone, "Oh customs meet and well!" We cannot allow ourselves to be dissatisfied with the age in which we live, because these and similar pleasing observances are not directly encouraged by some of its tendencies. For the future we have the best hopes; and if we take this view, that while the advance of civilization destroys much that is noble, and throws over society an atmosphere somewhat dull, it is only by its peculiar trials, no less than by its positive advantages, that the utmost virtue can be matured. And those who vainly lament that progress of earthly things, whether for good or evil, is certainly inevitable, may be consoled by the thought, that its sure tendency is to confirm and purify the virtue of the good. G. J. RHODES.

Notices of Books.

Historical Sketch of the Electric Telegraph, including its Rise and Progress in the United States. By ALEXANDER JONES. Imported by JOHN CHAPMAN, Strand, London.

Electricity and the Electric Telegraph; together with the Chemistry of the Stars. By GEORGE WILSON, M.D. F.R.S.E. Longman and Co. London. 1852.

THE first of these books forms a far more complete record of the establishment and improvement of the electric telegraph in the United States than we yet have of its origin and rise in this country. In saying so, we do not meah to homologate all its statements in reference to the national question as between the two countries. There is much less inclination, however, shown in this work, to deify the chief American telegraphist, Morse, than some of his fellow countrymen appear to have.

It is rather salutary sometimes to see ourselves reflected in the eyes of a rival nation, even though the mirror should be one of those which ludicrously exaggerate our most unamiable features; and on this account, and as we remember more than once noting some of the stock-jobbing abuses of the telegraph in America, we shall quote just a few lines in which our own present, or rather past, or at least passing, national system is sketched, with what truth or error we do not here pretend to say:—

"In England the electric telegraph has become a monstrous monopoly, being chiefly owned and worked by railway stock-jobbers. The people at large are, in a measure, shut out from its benefits. Their monopoly was created by purchasing up patents from successive inventors, such as Davy, Bain, &c. and fighting weaker claimants in lawsuits."

The author, however, is rather impartial, for he adds that—

"In the United States it looks as though a similar monopoly had been attempted; not by the purchase of others' rights, but by the multiplication of patents and re-issues made, to claim everything pretty much in the *lightning way*, and on these expanded claims to fight off all competition in constant lawsuits. In this, however, success has been only partially realised."

The second of the treatises last named constitutes one of the little shilling volumes of the traveller's library, and makes no pretension to contain a historical record of the progress of the telegraph in this country. It gives, in popular and often figurative and rather free language, an account of the process rather than of the progress, though beginning with a rapid review of the advancement of electrical and electro-magnetic science in general. On page 58, however, the author thus alludes to the originators of the telegraph:—

"We have said nothing regarding the history of the electric telegraph, which cannot yet be written otherwise than in the faintest outline. Its earliest scientific originators were Oersted, Ampere, and Wheatstone. It chief practical constructors have been Wheatstone and Cooke in England, to whose merits we need not again refer; in Scotland, Bain, a man of great inventive skill and ingenuity; in America, Morse, another distinguished mechanical genius; and on the Continent, Siemens, of Berlin, the deviser of the Prussian subterranean telegraph. Lastly, we make special mention of Brett and Crampton, who have achieved the construction of the first transmarine telegraph. It must be left to the survivors of these ingenious men, and of the many others who by discoveries in science or practical trials have made the telegraph what it is, to adjust their great but various merits."

The various details and varieties of the telegraph are described in an easy and entertaining way; and, much in the same off-hand style, with a dash of Carlyleism in it, the volume finishes with a somewhat original and suggestive chapter on the chemistry of the stars, in which the possible differences of worlds are shadowed out by the actual differences, proportions, and numbers of the elements combined in our own, every markedly different proportion in the relative quantities and numbers of the same elements necessarily constituting a markedly different sphere of existence or life, even with one and the same absolute range of "elements."

Miscellanea.

ARCHITECTURAL CONDITION OF THEATRES.—The Spanish Government has ordered an investigation to be made into the architectural state of all the theatres in Spain, and that those which may not be in a good condition shall be closed. A similar inquiry into the condition of the London theatres would not be useless, especially in respect of the safety of approaches, the ventilation, and means of egress in the event of fire.

ELECTRO-TELEGRAPHIC PROGRESS.—Our East-Indian dominions are within three years to be traversed by 3,000 miles of electric telegraph. Preliminary investigations as to the best modifications of the telegraph have already been made by order of the Governor-General. ——It is proposed to protect submarine telegraphs by placing the copper wires, gutta percha, and chemical covering, in a metallic casing, to be secured in the angular recesses of a link-iron-chain, one angle being capable of protecting five to ten insulated wires, and one chain from thirty to forty. It is also proposed to fix a testing apparatus in water-tight boxes attached to buoys at every one or two miles, the wires in the testing-box being connected with the submarine wires below, so as to indicate the line of telegraph, and to detect and repair defects by raising the cable to the surface.

BURNING LIME.—One ton of good limestone, says a writer in the *Agricultural Gazette*, will produce, when burned, between five and six barrels of lime. With a good draw-kiln, containing from fifty to sixty barrels, and the stones properly broken, which may be something larger than road metal, or to pass through a ring four inches in diameter, one barrel of good culm will burn five or six barrels of lime when the kiln is in good working order. The rates we have paid, when the wages were about 8d. to 1s. per day for men, were one penny per barrel for breaking the stone, and one penny per barrel for burning the lime, exclusive of quarrying, carriage to kiln, and culm. The process is, in lighting the kiln, to put in a large quantity of the roots of trees, waste timber, or all together, in the bottom of the kiln: this must be made level on top, and then a layer of broken stones, say four inches thick, then a layer of culm, then a layer of broken stones, then culm, and so on till the kiln is filled. A greater quantity of fuel will be required with the first few layers than the succeeding ones. The kiln is then set fire to from the eye, and as the great mass of fuel first put in wastes away, the limestone, &c. settles down: the kiln must be kept filled by adding fresh layers of broken limestone and culm. When the kiln is in full operation, the stone may be broken to a larger size, and the fuel economised. When full, the kiln is drawn till the limestone appears at the eye red hot, when you must stop. In the first three or four drawings, the stone, most probably, will not be burned enough, but after that an experienced lime-burner will always produce well-burned lime if the stone be good.

IMPROVED MACHINERY FOR PLASTIC AND METALLIC PRODUCTS.—Mr. Charles D. Archibald, of Portland-place, has recently taken out a pateut for improvements in the manufacture of bricks and other productions of plastic materials, in cutting, dressing, and shaping the same, as well as articles in stone, wood, and metals, and in the machinery and apparatus employed therein. The brick machinery claims are for a method of screening the clay or other materials before delivery into the moulds, the heating of the moulding surface by steam, hot air, or water, the arrangement of the moulds in reciprocating carriages between pressure rollers, discharging the bricks by means of carriages on inclined planes, and giving concave or other shapes to their faces by projections on the pressing cylinder. For cutting and shaping machinery a rocking or tumbling motion is produced by the direct action of steam power: there is a peculiar combination of headstock and mode of adjusting and securing the cutters, several sets of which may be used in the same jaws at various angles; and for dressing or polishing, the apparatus may be lowered or raised at pleasure, thus causing an equal and uniform motion on the surfaces to which they are applied.——Messrs. Woodworth and Mower, of the United States, have taken out an English patent for some new brick-making apparatus, in which percussion is used to consolidate the plastic materials in the moulds. A sliding mould-charger is in connection with the ram, or piston, in such manner as to render it a part of the mould some time after a percussion of the ram. The moulds have inclined sides, and are connected with machinery, which lifts the moulded article previous to a second percussion, so that it does not adhere to the mould, and allows the compressed air to escape. There is also an arrangement for giving the necessary depression in the face of the brick; and the entire mass is turned out of the mould in an equal state of condensation.

ISLINGTON CATTLE MARKET.—On Monday in last week the cattle market, in the Lower-road, Islington, was offered for sale by public auction at Garraway's, by Messrs. Farebrother, by direction of the mortgagees. The property comprises the market, which stands on about sixteen acres of freehold land, building land, public-houses, private dwelling-houses, shops, and leasehold property, &c. and the whole was offered to public competition in one lot. The first offer for the whole property was 45,000*l.* and it was bought in at 52,000*l.*

Reaping Machines.—The American inventions (or modification, it seems rather), by Hussey and McCormick, have been in more or less successful operation during the harvest in many parts of England, but on going into Scotland, to exhibit before the Highland Agricultural Society at Perth, Hussey's machine appears to have met with an unexpected and a formidable opponent in the father of all reaping machines, which has been in constant use for the last fifteen years, in that not very remote part of the country, and was invented twenty-five years since by the Rev. Patrick Bell, now minister of Carmyllie in Forfarshire. So far from this comparatively ancient instrument being in its dotage, it is decided to have fairly beaten Hussey's in formal competition, and was awarded the prize which it was probably thought, not long since, that Hussey's would carry off by merely "walking over the ground." But if Bell's machine be really entitled to the prize awarded it, what have the Highland Society been about for the last fifteen years? True, they did award Mr. Bell 50*l.* many years since for this very invention, but surely the purpose of such a society is something more than merely to pay prizes, and then to lay the chosen instrument on the shelf for so many years. The Royal Agricultural Improvement Society of Ireland have resolved to invite a trial of Bell's machine along with Hussey's at their forthcoming show, although, till a deputation saw Bell's at work, they intended only to have Hussey's. Bell's machine cut straight into the crop by a series of shears, 12 inches long, the horses working and following behind the clippers. We regret to observe that agricultural labourers in some parts of England are not only refusing to work with the reaping machines, and throwing other obstacles in the way, but are even breaking them to pieces.

A British Industrial University.—In course of last month it was announced in our columns that there was reason to believe His Royal Highness the Prince Consort "contemplated the foundation of a great building and establishment in which theory would be combined with practice, in the advancement of science and art, by a concentration of talent and skill." We believe we may now state without any impropriety that in all probability the surplus of 150,000*l.* and upwards, in the hands of the Royal Commission of the Great Industrial Exhibition of 1851, will be devoted to the foundation of an Industrial University in London, such as was long since mooted in The Builder. This central concentration of science and industry will ultimately be organized, with radii or branch institutions, throughout the whole country; but we scarcely think that the Royal Commissioners, as has been stated, have as yet formed any definite scheme for the establishment of such a university, although it is their known design to carry out the idea.

The Electric Clock.—Among all the wonders of that wonder-working principle, electricity, whether we view its power in the instantaneous conveyance of information between distant places, its agency in blasting rocks in safety, the deposition of metals from their solutions, or others of its numerous appliances, there is not one of them which strikes the mind as more extraordinary or interesting than its application as a prime mover for the measurement of time. "We believe," says a contemporary, in speaking of this subject, "that the first idea of working clocks by electricity is due to Mr. Alexander Bain, who commenced putting it in practice in 1837. His first attempt was to make a common clock transmit its time to other clocks at a distance, by the action of electro-magnets, in which he was perfectly successful. The next step was the application of the electric power to work single clocks, so that no winding might be required, and the common clock be dispensed with altogether. The ordinary galvanic apparatus was found, however, neither uniform nor lasting, giving more trouble and expense than the common clocks; and, in prosecuting his experiments, Mr. Bain, in 1842, discovered that a plate of zinc and one of copper, buried in the earth, gave a uniform and continuous force of sufficient power to work clocks of any size, from the smallest mantel time-piece to large church clocks. In situations where it is inconvenient to obtain the electric current from the earth, the voltaic battery is resorted to; but in almost every case the first mode has proved the easiest, as well as the most effective. The cost of its plates is a trifle, and it has been ascertained that they will retain their efficacy for years. It is now shown to be possible that all the principal clocks in the kingdom might be united to keep time with one governing one, which, again, derives its moving power from the earth, without winding up or need of attendance of any kind from one year's end to the other." Mr. Bain's warehouse for these clocks is 43, Old Bond-street.

A fine Opportunity.—It appears that Mr. B. Bond Cabbell has bought the whole of the town of Cromer with the exception of two houses, and about 12,000 acres of land. The purchase-money amounts to upwards of 60,000*l.* The property was lately possessed by the Misses Wyndham, two old ladies, who were much averse to improvements and alterations. Mr. Cabbell has now an opportunity to create a model town, and may, if he please, settle the sanitary question. What a thing it would be to add to the list of his good deeds, that he raised the character of a whole community, and lengthened the average of life in Cromer, say five years; and this he might do without much difficulty.

The Iron Trade.—The demand is not so brisk as it was a fortnight since. For home consumption especially there is but limited inquiry, the staple hardware manufactures of the district having made very little progress; while for export there is less inclination to buy, unless for immediate shipment, though large orders are in course of execution. Scotch pig iron also seems to have met with a considerable check, and is now quoted 2*s.* per ton lower. Staffordshire bar and rod iron may now be fairly quoted at 6*l.* per ton; hoops, sheets, and plates from 6*l.* 10*s.* to 8*l.* per ton; and pigs from 50*s.* to 65*s.* per ton.—*Birmingham Gazette.*

The Tramway in Maiden-lane, Covent Garden.—An "Old Inhabitant" complains that in repaving this lane, the granite tramway, which saved much noise in this thoroughfare, is not being replaced. The traffic, especially in cabs, and above all, through the night, from the vicinity of the Adelphi Theatre and the Cyder Cellars, is constant, and the tramway was laid down expressly to obviate this nuisance. On inquiry, we cannot learn any reason for the removal of the tramway, or for the belief that sufficient supervision has been exercised in the repaving. The inhabitants themselves should look to it in time.

A Floating City.—The city of Bangkok, the capital of Siam, consists of a long, double, and in some parts treble, row of neatly and tastefully-painted wooden cabins, floating on thick bamboo rafts, and linked to each other, in parcels of six or seven houses, by chains, which chains were fastened to huge poles driven into the bed of the river. The whole city rose at once like a magic picture to our admiring gaze. . . . If the air of the "Fleet-street" of Siam does not agree with Mrs. Yowchowfow and her children, or they wish to obtain a more aristocratic footing by being domiciled higher up and nearer to the king's palace, all they have to do is to wait till the tide serves, and loosing from their moorings, float gently up towards the spot they wish to occupy. Bangkok, the modern capital of Siam, and the seat of the Siamese government, was computed, at the period of my residence there, to consist of seventy thousand floating houses or shops; and each shop, taking one with another, to contain five individuals, including men, women, and children; making the population amount to 350,000 souls, of which number 70,000 are Chinese, 20,000 Burmese, 20,000 Arabs and Indians; the remainder, or about 240,000, being Siamese. This was the best census we could take, and I believe it to be nearly accurate. The situation is exceedingly picturesque. I was told that, when the Siamese relinquished the ancient capital of Yuthia, and first established the throne at Bangkok, the houses were built upon the banks of the river itself; but the frequent recurrence of the cholera induced one of the kings to insist upon the inhabitants living upon the water, on the supposition that their dwellings would be more cleanly, and, consequently, the inmates less subjected to the baneful effects of that scourge of the East.—*Neale's Residence in Siam.*

Prevention of Accidents in Iron Foundries.—A Staffordshire correspondent of the *Times* says, with reference to a recent upsetting of a crane ladle, with melted iron,—"I would place a vessel in the floor: the one I am in the habit of using is much in the shape of a boat, made of wrought-iron thin boiler plate. It is coated inside with loam, 'daubed,' as it is called in the trade, put on to a waggon, and run into the stove, and made thoroughly dry. This vessel is then placed at a proper height to allow the iron to run out of it into the mould, through a sluice prepared for the purpose. The melted iron can be taken from the furnaces with crane ladles and put into this vessel; and here you gain a double object. By this method you mix your iron before it goes into the mould, as it frequently happens you get dull or thick iron from the air furnaces when you get it very hot or fluid from the cupola; and, further, you have no fear of chains, or cranes, or leverage breaking, and running a great risk of destroying life and property. By this arrangement you see the iron before it goes into your mould; you entirely do away with all the confusion and bustle; your principal stands by the letting out place of the vessel, and lets it run out fast or slow, just as the article requires it. Heavy beams, large turn-tables, cylinders, and girders may be cast with the greatest safety by this means: you may empty as many cupolas and air furnaces, and even blast furnaces, into vessels thus fixed. I should urge upon manufacturers at once to abandon the system of suspending 10 or 12 tons of fluid iron in the air from a crane frequently as high as the workmen's heads."

The Irish Drainage Commission.—The commission issued by Government to inquire into the Irish drainage works is about to commence its inquiries. It appears that the investigation will be one of a comprehensive character, extending to works involving an expenditure of about two millions sterling.

An Essex Archæological Association is about to be formed.

Fish Paddles for Steamers.—A working shipwright at Liverpool, according to the local *Journal*, has patented (or secured for six months, at least, that capitalists may see) an invention for the propulsion of vessels by paddles shaped and working like fish fins, by means of which the inventor, Mr. Hampson, offers to beat both screw and wheel paddle.

Origin of Agricultural Inventions.—From some remarks in the *Edinburgh Review*, it would appear that our American relatives are indebted to us not only for their stamina, their mother wit, and their ingenuity, but for some of their approved "original" inventions too. "A Scottish Presbyterian minister," says the *Review*, "puts together, in 1825, an adjustment of wheels and scissor-blades so working that when pushed along a corn field, it cuts down the grain as if done by hand, and far more cheaply and expeditiously. His brother, a farmer, improves upon and adopts this machine, and for a dozen successive years employs it in reaping his crops. The National Society gives the inventor a prize of 50*l.* but makes little noise about it, and although, in 1834, several were in operation in Forfarshire, few of the supposed wide-awake Scotch farmers thought of adopting it. But four of the machines were sent to New York from Dundee. Thoughtful, pushing emigrants, settlers in the North American prairies, saw, or heard, or read of these machines. The reaper was re-constructed, modified in different ways, by ingenious mechanics, was made by thousands for the farmers beyond the American lakes, and obtained a deservedly high reputation. Brought to London in 1851, the American reaping machine proved the main attraction of the United States' department of the Great

Exhibition. Hundreds of machines were bespoken by English cultivators, and all the while no one knew that the original model machine was at the very time quietly cutting its yearly harvest on the farm of Inch Michael, in the Carse of Gowrie." France and Norway, too, as well as America, are trading on British ingenuity. "A Devonshire farmer invents a modification of the rotatory churn. The French minister sees this at the Society of Arts, and incloses a description of it to Paris. A model is made, somewhat altered, and exhibited at the 'Exposition.' A Scottish director of the Highland Society has a copy made of it, carries it over to Edinburgh, and for the next six months all the Ayrshire amateurs are treating their friends to butter made in ten minutes, and amusing them with the wonders of the French churn. A Yorkshire smith fixes harrow-teeth into a long cylindrical axle at uniform distances, and fitting two of these axles together, so that the teeth of the one shall play between those of the other when it is dragged along the land, forms a machine admirably adapted for the tearing of heavy brittle clods asunder. It is known to few, and attracts little notice at home; but it gets to Norway. Seen there by an Englishman, it is pronounced, as it is, a thing of first-rate excellence, and under the name of the Norwegian harrow, it obtains a distinguished place at our future agricultural shows."

THE CAPITAL OF ICELAND.—The dwellings of the rich are of wood, and built entirely on the ground floor, with the exception of a single edifice, to which the high school now kept at Bassestadt is to be removed next year: this has an upper story. The Stiftsamtmann occupies a stone house, which was originally intended for a prison, but crimes are of such rare occurrence in Iceland, that it was converted many years ago into a residence for this officer of the crown. Another stone house can be seen from Reikjavick: it is the seat of the bishop, which lies surrounded by meadows near the sea, at Laugarnes, about half a mile from the town. The church is barely large enough to hold a hundred or a hundred and fifty persons. It is of stone, with a wooden roof, under which is kept a library, containing several thousand volumes. This church possesses a treasure which might well be envied by others of greater size and pretensions—a font by Thorwalsden, whose parents were natives of Iceland; and, although born himself in Denmark, he seems to have been desirous to honour the land of his forefathers. —*Pfeiffer's Iceland.*

TENDERS

For a clerk's house, at Messrs. Charrington's, Mile-end-road. Mr. A. R. Mason, architect.

Holmes	£1,069	0	0
Munday	995	0	0
Wilson	893	0	0
Hedges	885	0	0
Ashley and Horner	856	0	0
Lemon	855	0	0
Wood and Son	843	0	0
Hill (accepted)	838	0	0

For a malting-house, at Bromley, Middlesex, for Mr. Walmsley. Mr. Humphreys, architect.

Wilson	£3,985	0	0
Furmoul	3,900	0	0
Jay	3,598	0	0
Laurence	3,581	0	0
Haynes and Eyre	3,527	0	0
Thomas and Co.	3,482	0	0
Holmes	3,304	0	0
Hill (accepted)	3,294	0	0

For a dwelling-house, complete for occupation, in Clifford-street, Bond-street. Messrs. Banks and Barry, architects.

W. Cubitt and Co.	£3,845	0	0
Messrs. Piper	3,845	0	0
Lucas, Brothers (accepted)	3,750	0	0

For the new market-house, at Camborne. Mr. Bond, architect.

Jenkins and Williams, Gwinear	£1,195	15	0
T. and W. Eva, Helston	1,123	7	6
Carah and Co. Crowan	1,061	10	0
Tuck, Camborne	1,056	10	0
W. and T. May, Poole	1,034	10	0
Harris, Camborne	1,011	10	0
Vivian and Co. Illogan	985	10	0
Prior, Truro	952	0	0

For alterations and repairs, at 21, Lamb's-conduit-street. Mr. Herbert Williams, architect.

Sanders and Woolcott	£1,362	0	0
Field and Sons	1,075	0	0
Elston	1,073	0	0
Thompson and Crossnell	1,054	0	0
Day	994	10	0
Parkin (accepted)	797	0	0!

TO CORRESPONDENTS.

LETTERS TO SOBILLAH.—The 13th letter on "History in Brick and Stone," will appear in our next. The 14th will probably conclude the series. We have been urged to republish them in a connected, cheap form, perhaps enlarged, and have the suggestion under consideration.

"Lime Measure."—In lime measure, what is called a "Hundred," is 100 pecks, or 25 striked bushels, old measure. By the Act of 1824, the standard measure for corn and other dry goods is declared to be the imperial gallon. Its multiples are the *peck*, 2 gallons; the *bushel*, 4 pecks; and the *quarter*, which is 8 bushels.

"J. G.," "Automath," "W. M. C." (we must decline giving our correspondent the name of the writer of the paragraph referred to. We are not aware that he has the slightest right to ask for it), "C. M. W.," "F. W. O.," "G. W.," "M. G. H.," "B. and S.," "Q. E. D." (we prefer allowing our contemporaries to manage their own business their own way), "G. J." (it shall be looked for), "G. F. E." (the quotations are perfectly sound, but do not support the expression objected to), "G. T. R.," "E. B.," "Leny," (shall appear), "G. R." (ditto), "W. H." (ditto), "S. S. T." (we shall be glad to see the paper), "Messrs. W. and Son" (shall appear), "No Peelite," "G. S.," "Roberto Angelo," "H. C. L."

"Books and Addresses."—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

ADVERTISEMENTS.

LIGHTNING CONDUCTORS.
R. S. NEWALL and Co.'s PATENT COPPER ROPE,
3-8ths diameter, 7½d. per 100 feet.
Office, 130, Strand, London.
Manufactory, Gateshead-on-Tyne.

THE RECENT THUNDER STORMS.—SMITH'S PATENT WIRE-ROPE LIGHTNING CONDUCTORS, for the protection of Churches and other high buildings, Ships, &c. Amongst many hundred instances of their perfect efficiency, as applied and fitted by the original inventor and patentee, A. SMITH, 69, Prince's-street, Leicester-square, London, that of St. Martin's Church, Leicester, is the most recent which has come to his knowledge (vide the *Times* of August 16).

SIR W. S. HARRIS'S LIGHTNING CONDUCTORS.—The public attention, as well as that of Church-Building Committees, and those interested in the preservation of churches and all description of buildings, is called to the very numerous recent disastrous effects of the heavy thunder-storms which have prevailed. THOS. W. GRAY, 79, King William-street, City, London, respectfully announces that he is the only person authorised by Sir W. Harris to apply his Lightning Conductors, and who will not be responsible for their application by any other persons. The peculiar form and adaptation of these Conductors is such as to safely carry off any amount of electric fluid, as evinced in many authenticated instances at sea, both in the navy and merchant service as well as in buildings; and to show the importance of these Conductors, it may be stated that the Prize Council Medal of the Great Exhibition was awarded for them.

Mr. T. W. GRAY will be happy to supply any information that may be desired, and to furnish estimates of the cost for fitting the Conductors.

SOUTH WALES RAILWAY.—NOTICE is hereby given that the next HALF-YEARLY GENERAL or ORDINARY MEETING of the Proprietors of this Company will be HELD, pursuant to the Act of Parliament, at the PADDINGTON STATION of the Great Western Railway, on FRIDAY, the 27th day of August, instant, at One o'clock precisely for the general purposes of business.—Signed,
C. R. M. TALBOT, Chairman.
WILLIAM MATTHEWS, Deputy Chairman.

The Transfer Books will be closed on the 13th inst. and will not be re-opened until after the said Half-yearly General Meeting, on the 27th instant.—By order,
FRED. G. SAUNDERS, Secretary.
South Wales Railway Office, 19, Eastbourne-terrace, Paddington, London, August 4, 1852.

TOURS IN IRELAND.—IRISH TOURIST TICKETS (available for a month) are issued at the following stations:—

	1st Class. £ s. d.	2nd Class. £ s. d.
London (Euston Station)	6 10 0	5 5 0
Edinburgh, Glasgow, Hull, Bristol, Carlisle, Oxford	6 6 0	5 5 0
Worcester, Cheltenham, Gloucester	5 15 0	4 15 0
Birmingham, Rugby, Leamington, Coventry, Lincoln	5 5 0	4 5 0
Wolverhampton, Huddersfield, Leeds, Sheffield, Derby	5 0 0	4 5 0
Manchester, Warrington, Stoke, Macclesfield	4 4 0	3 10 0
Liverpool, Chester	4 0 0	3 5 0

They enable the holders to proceed to Chester, Bangor, Dublin, Cork, the Lakes of Killarney, and by the new and romantic route of Kenmare and Glengariff, and back to the station at which the ticket was issued.

The holder of each Irish Tourist Ticket is entitled to have issued to him, at very reduced rates, tickets for a Tour in the County of Wicklow, for the journey from Dublin to Belfast, for the Excursion to the Giant's Causeway, and one from Dublin to Galway for the Tour through Connemara.

Every purchaser of a ticket is presented, gratis, with a copy of the "Illustrated Irish Tourists' Hand-book," compiled solely for these tours.

The fullest and most accurate information afforded at the Chester and Holyhead Company's Office, 52, Westland-row, Dublin. See also "Bradshaw's Guide," page 123.

THE PERMANENT WAY COMPANY beg to inform Boards of Directors, Engineers, and others, interested in railways, that in order to facilitate negotiations for the use of their patented improvements, now so extensively adopted, they have arranged with Mr. CHARLES MAY, Civil Engineer, 3, Great George-street, Westminster (lately of the firm of Ransomes and May, Ipswich), to manage their transactions. Communications made either to him, or to the undersigned, will meet with prompt attention. WILLIAM HOWDEN, Secretary.
Offices, 26, Great George-street, Westminster.

AUSTRALIA.—TO YOUNG MEN.—It has now become a well-established fact that a combination of labour and efficient machinery will produce to each individual interested therein three or four times more beneficial results at the gold diggings than individuals or small parties can by any possibility obtain without such assistance. An expedition is now preparing, and will be ready to leave England in about three weeks, consisting of practical men, and furnished with the most improved machinery for washing and crushing gold ore by horse power; also well provided with every other requisite, as waggons, carts, tents, bedding, mining tools of all kinds, cooking utensils, camp furniture, &c. The use of all these things will be given to those joining the party, which is to consist of sixteen men, on the understanding that one-fourth of the profits shall be the share of the capitalist, who has gone to the great expense of fitting it out. Two or three more are required to make up the number, and a preference will be given to mechanics or miners not afraid of work, and who can give a good reference as to character, with sufficient money for an outfit of clothes, payment of passage, and a few pounds to commence with.—Apply by letter only, in the first instance, stating age, occupation, if sea, at command, and giving a respectable reference, to C. R. 20, Sebbon-street, Islington.

AN Architect, who has some works in hand in Italy, and is about to proceed there early in September, is desirous of taking with him one or two Young Gentlemen as PUPILS, who would have an opportunity of acquiring some practical knowledge, with the advantage of visiting some principal cities in Italy for the purposes of study.—For further particulars address, A. Z. care of Mr. Norchi, King William-street, Strand.

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TO ARCHITECTS' ASSISTANTS.

WANTED, immediately, in the country, for two or three months, one who is efficient at Gothic, and in getting up finished drawings and perspectives, in a superior style.—Address, stating terms, G. M. ATCHLEY and Co. Architect Library, 156, Great Russell-street, Bedford-square, London.

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MERTHYR TYDFIL UNION.—TO SURVEYORS, VALUERS, &c.—The Guardians of this Union are desirous of APPOINTING a VALUER, to value the parish of Aberlare, in the county of Glamorgan, for the purposes of the poor's rate. The parish contains about 10 miles of railway, including two chief stations, and about four miles of canal, three ironworks (containing 16 blast furnaces) about 12 collieries, about 2,000 cottages, and about 800 other dwelling-houses. The total number of separate assessments is 3,039. The acreage is 16,538 acres, of which 700 arable, 8,000 meadow, 1,100 wood, and the rest mountain, &c. and the population (census 1851) 14,986. Further information may be had of Mr. HOWELL WILLIAMS, Assistant-overseer, Aberdare, or of the undersigned.—Apply by letter, pre-paid, stating terms and qualifications on or before the 3rd day of September, 1852, to FRANK JAMES, Clerk, Merthyr Tydfil.

SALISBURY LOCAL BOARD of HEALTH.—Notice is hereby given, that the Local Board of Health for Salisbury will, at a Special Meeting of the Board, to be held on the 20th day of August, instant, proceed to the ELECTION of a SURVEYOR, INSPECTOR of NUISANCES, and COLLECTOR of RATES for the District of Salisbury, under the Public Health Act, 1848.

The appointment of Surveyor will be combined with that of Inspector of Nuisances, and the person appointed must have a competent knowledge of the practice of engineering, be qualified to superintend works, test materials, and see to the fulfilment of the conditions of contracts by the contractors of works, and be able to discharge the several duties of surveyor and inspector of nuisances, under the provisions of the said Act.

The candidates for surveyor will be required to produce satisfactory testimonials of their qualifications, and to state the salary at which they are willing to undertake the duties of the office.

The candidates for Collector of Rates will be required to state the per-centage at which they will be willing to undertake the making out and collection of the Rates, and the person appointed will be required to give security for the due performance of his duties.

Applications with testimonials to be respectively endorsed, "Application for the Appointment of Surveyor," or "Collector of Rates," as the case may be, and sent in to me on or before the 20th instant. By order,
MATT. THO. HODDING, Clerk to the said Board.
Salisbury, August 15, 1852.

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WANTED, to APPRENTICE a respectable Youth, aged 14, to the above trade.—Apply to Mr. DAVEY, Blue Posts, Grosvenor-mews, Bond-street.

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TO BUILDERS.

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A RESPECTABLE YOUTH is desirous of obtaining a SITUATION in a Builder's Office; he is a good scholar, and has been previously engaged in the building line.—Address, J. GOLDING, Ranelagh-wharf, Commercial-road, Pimlico.

TO CARPENTERS AND BUILDERS.

A YOUNG MAN, who has worked at the trade five years, wishes to ARTICLE himself for two years, where he would have an opportunity of perfecting himself in the business.—Direct F. GREEN, 46, Rawstorne-street, Goswell-road.

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A YOUNG MAN, age Twenty-one, wishes to ARTICLE himself to a BRICKLAYER or CARPENTER, to learn either business; has been used to the plumbing and glazing. A moderate premium would be given. Country no objection. Address to A. L. No. 14, Chiswell-street, Finsbury-square.

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A YOUNG GENTLEMAN, who has been two years and a half in an Architect's Office, wishes for a SITUATION, where he will have plenty to do, either in making out drawings of any kind, or as clerk of works. Has a knowledge of perspective and mensuration. A moderate salary required.—Address H. J. Post-office, Uxbridge, Middlesex.

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C. P. RONEY, Secretary.

Offices, 3, Upper Merrion-street, Dublin, Aug. 17, 1852.

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3, Adelaide-place, London-bridge, 10th August, 1852. GEORGE GROVE, Secretary.

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